SATLOC®

IntelliTrac

User Guide

Part No. 875-0308-000 Rev A1

AgJunction®

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

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6501346	7277792	7460942	8102325	8271194	
6539303	7292185	7689354	8138970	8307535	
6549091	7292186	7808428	8140223	8311696	
6711501	7373231	7835832	8174437	8334804	
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Contents

Chapter 1 Introduction 1

What's In This Guide? 2
Product Overview 2
Using Other Satloc Products with IntelliTrac 3
Differential GPS Receiver Advantage 3

Chapter 2 Getting Started 5

Starting IntelliTrac 6
IntelliTrac Display Overview 8
Understanding the Map Screen 8
Pressing Buttons in IntelliTrac 11
Using the Keypad 12
Setting Up IntelliTrac 17
Entering Field Values 19
Zooming and Panning the Moving Map Area 20
Day Mode and Night Mode 22
Using Hot Keys 23
Setting User-Defined Fields 24
Before You Start Using IntelliTrac 26
Understanding Systemwide Settings 26
Detecting Your Flow Control System 28
Switching Between IntelliTrac and the Windows Desktop 28
Exiting IntelliTrac 29

Chapter 3 Work Options 31

Aerial Guidance Terms and IntelliTrac 32
Entering Basic Job Details (Quick Start) 34
Understanding Job and Log Data 37
Log Data 37
Adding Job Information to the Log 38
Spray Options 39
Setting Spray Options - Volume 41
Spray Boom Settings 42
Changing the Flow Lead Time 44
Using Prescription Maps 45
Importing a Prescription Map 45
Loading a Prescription Map 47

Chapter 4 Pattern Guidance 49

Pattern Types Overview 50

Flying Patterns 51
Flying a Basic Pattern 52
Common Pattern Flying Tasks 55
Troubleshooting 56
Available Pattern Types 57
Pattern Types Summary 57
Flying the Available Pattern Types 59
Back-to-Back Pattern (BK-BK) 59
Multi Back-to-Back Pattern (MB2BK) 60
Back-to-Back Skip Pattern (BKBKS) 61
Racetrack Pattern (RCTRK) 62
Quick Racetrack Pattern (QKRTK) 63
Reverse Racetrack Pattern (RVTRK) 64
QuickTrac X Pattern (QKRTX) 65
Squeeze Pattern (SQUEZ) 66
Expand Pattern (EXPND) 67
Understanding Marks (Return Points) 68
Creating a Mark 68
Returning to a Mark 69
Clearing a Mark 71
Managing Data and Log Files 71
About Log Data Files and Job Data Files 71
Viewing Log Data 72
Clearing Log Data 73
Transferring Data Files 76
Deleting Files 81

Chapter 5 Waypoints and Routes 83

Overview 84
Working with Waypoints 84
Setting a Waypoint While Flying 85
Setting a Waypoint Manually 86
Recalling a Waypoint 90
Automatic Guidance 91
Editing a Waypoint 92
Deleting a Waypoint 93
Working with Routes 94
Recalling a Route 94

Chapter 6 Jobs and Polygons 97

Overview 98
Working with Jobs 98
Saving a Job 98

Recalling a Job 99
Clearing a Job 100
Deleting Jobs 100
Working with Polygons 102
Using Polygons 103
Setting Polygon Points 103
Calculating Total Polygon Area 110
Saving Polygons 110
Editing a Polygon 112
Deleting a Polygon 112
Receiving Guidance to a Polygon 113
Managing A|B Lines with Polygons 114
Saving and Recalling Patterns 118

Chapter 7 Advanced Setup and Customization 119

Entering Subscription Information 120
Setting Up the Lightbar 122
Configuring Lightbar Dimming and Warnings 123
Setting a Double-Spray Warning 124
Setting the DOF Obstacle Warning 125
Setting Lightbar Display Fields 129
Displaying/Hiding the Virtual Lightbar 131
Setting the Cross-Track Sensitivity 132
Setting the Lightbar Edge Warning 132
Desensitizing the LEDs 133
Understanding Guidance Delay 135
Configuring Your Display 136
Setting Up the Display 136
Changing the Zoom/Pan Options 138
Changing Logging Options 139
Flow Control 140
Setting GPS Options 140
Setting the Mask Angle 141
Setting the GPS Receiver Update Rate 141
Setting the Differential Source 142
Sending GPS Commands to the Receiver 143
Working with e-Dif 144
Customized Settings 145

Appendix A Lightbar and Screen Display Options 147

Appendix B Hot Key Descriptions 151

Index 157

End User License Agreement 161

Warranty Notice 164

Chapter 1: Introduction

What's In This Guide?
Product Overview
Using Other Satloc Products with IntelliTrac
Differential GPS Receiver Advantage

IntelliTrac™ aerial guidance software provides precise, flexible guidance technology for today's aerial spray market. IntelliTrac is included as part of the Satloc® G4™ system that enables you to fly and spray precise patterns using constant rate flow control, thereby reducing fuel, flying time, and application costs.

What's In This Guide?

This user guide provides the following information to get you up and running quickly with IntelliTrac.

- This chapter briefly outlines the contents of this manual, lists IntelliTrac features, introduces related Satloc products, and describes both the advantages of differential GPS (DGPS) and how it is used by IntelliTrac.
- Chapter 2, "Getting Started" describes how to start and exit IntelliTrac, provides an overview of IntelliTrac Map (display) screen, describes how to set up IntelliTrac, and lists what you need to know before using IntelliTrac.
- Chapter 3, "Work Options" provides an overview of aerial guidance terms, describes how to quickly enter basic job details, describes jobs and logs and how they are related, and lists spray and boom options.
- Chapter 4, "Pattern Guidance" describes patterns, marks, and job and log data files.
- Chapter 5, "Waypoints and Routes" shows you how to work with marks and routes.
- Chapter 6, "Jobs and Polygons" describes how to work with jobs and polygons.
- Chapter 7, "Advanced Setup and Customization" includes such tasks as entering subscriptions, configuring your lightbar, and changing logging defaults.
- Appendix A, "Lightbar and Screen Display Options" lists the options available for user-defined fields on the Map screen and all display options for your lightbar.
- Appendix B, "Hot Key Descriptions" provides descriptions for all IntelliTrac Hot Keys.

Product Overview

The Satloc G4™ is the most complete and advanced aerial guidance system for aerial applicators. Satloc G4 is built with the top-of-the-line processing power of the Intel® Dual-Core™ i7 processor and includes the Windows® 7 64-bit operating system. G4 features a 9-inch, 16:9 ratio touchscreen that lets you use multi-touch gestures such as pinch-to-zoom, rotate, and press-and-drag to access information. G4 also supports Skype™ and Ethernet connectivity for cell-based modems.

You can download job files and shapefiles as well as prescription maps. Background maps are also available with G4 and enhance flight navigation and confidence by enabling aerial applicators to view such flight information as spray, waypoints, and polygons on background maps.

G4 also includes an A21™ antenna and external L7 lightbar.

IntelliTrac, the software that runs on the G4, enables you to do the following:

- Fly various pattern types, such as Back-to-Back and RaceTrack patterns
- Download job files, shapefiles, and prescription maps
- Transfer log files
- Log data to the G4 hard drive or to an external USB flash drive
- Use configurable shortcut keys (Hot Keys) to quickly perform common tasks
- Perform advanced lightbar setup and dimming functions
- Load background maps
- Push/pull data via Satloc HQ™ (see section following)

Using Other Satloc Products with IntelliTrac

HQ and MapStar® are Satloc software products that you can use in conjunction with IntelliTrac to perform more advanced tasks.

- HQ is a real-time web-based asset tracking tool that enables companies to track the position and position-related data of aircraft and other assets, such as spotter vehicles and loader trucks.
- MapStar is pre-application mapping and post-application analysis log replay software that allows you to import/export common GIS file formats (such as CAD DXF, MapInfo MID/MIF, and Esri® shapefiles) as well as view, analyze, and export log data. MapStar also supports variable rate applications and prescription maps.

Differential GPS Receiver Advantage

The G4 differential GPS (DGPS) receiver supports such differential signals as SBAS, L-band, and beacon. IntelliTrac automatically detects the active signal from your receiver. If you lose satellite reception you may want to switch receiver applications—since you cannot switch receiver applications via IntelliTrac, see your receiver user guide for information on switching applications.

During a temporary signal outage, the receiver uses aging correction data for 40 minutes or more without significantly affecting positioning quality—meaning you will never be without a differential signal.

Your receiver also includes Hemisphere GNSS' e-Dif® technology—a differential solution for areas where it is geographically difficult to obtain a good differential signal. With e-Dif, you can achieve GPS accuracy of a few feet without the need for a differential signal broadcast. e-Dif generates internal differential corrections based on your starting location and these corrections are modeled over time and applied to the GPS data to maintain a consistent relative position.

IntelliTrac uses DGPS data to provide highly accurate guidance to help you efficiently complete your spray jobs. Once you establish a reference line, or starting location for your pattern, IntelliTrac can calculate exactly where your next swath should be based on your selected swath width and pattern using a GPS location it computes 5-20 times per second. The GPS location is made more accurate by applying DGPS corrections. The resulting lightbar guidance cues reflect your real-time GPS data. IntelliTrac also uses GPS data to guide you to specific waypoints—GPS coordinates of a specific location.

Chapter 2: Getting Started

Starting IntelliTrac

IntelliTrac Display Overview

Setting Up IntelliTrac

Before You Start Using IntelliTrac

Switching Between IntelliTrac and the Windows Desktop

Exiting IntelliTrac

This chapter provides an introduction to IntelliTrac and covers the following topics:

- Starting IntelliTrac
- Overview of the IntelliTrac display
- Setting up IntelliTrac, including how to enter values and navigate the display
- What to know before you begin using IntelliTrac
- Switching between IntelliTrac and the Windows desktop
- Exiting IntelliTrac

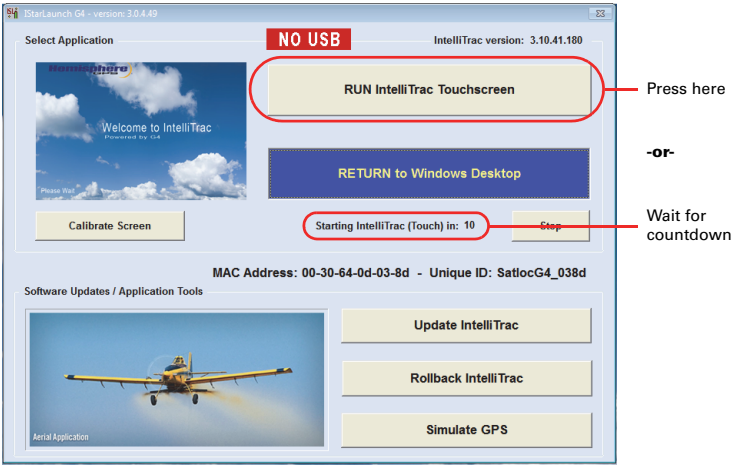
Starting IntelliTrac

Refer to the G4 Installation Guide for more information on how to set up and power on your G4 system and how to start IntelliTrac. The G4 Installation Guide is available from the Satloc website at www.satloc.com.

To start IntelliTrac:

1. Power on your G4 system. After G4 completes its bootup sequence the Disclaimer window appears in front of the IStarLaunchG4 startup screen.

2. Press **OK**. The DISCLAIMER window closes and the full IStarLaunch G4 screen is visible.
3. Run IntelliTrac using either of the following methods:
   - Press the **RUN IntelliTrac Touchscreen** button
   - Wait for IntelliTrac to finish counting down to zero



With either start method the Select LOGGING Drive window appears.

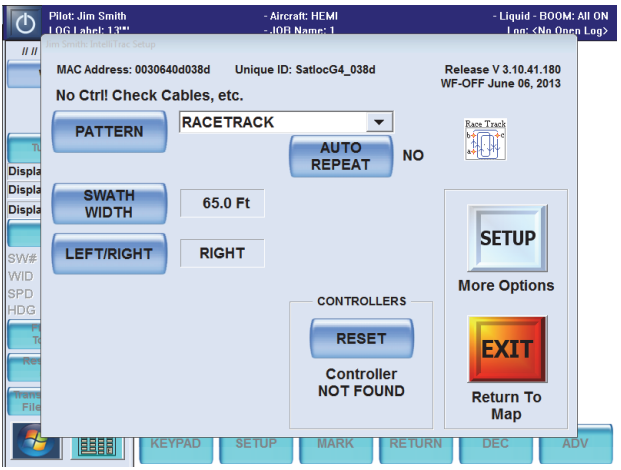
4. Press the preferred logging button:
   - **Hard Drive** - Log data to the G4 hard drive (recommended)
   - **USB Drive** - Log data to a USB flash drive

The Hard Drive option is always available ('FOUND' appears above the Hard Drive button). However, the USB Drive option is only available ('FOUND' appears above the USB Drive button) if a USB flash drive is inserted in one of the USB ports on the G4. 'NO USB' (with a red background) appears above the USB Drive button if no USB drive is inserted.

USB flash drive inserted

No USB flash drive inserted

After you press either Hard Drive or USB Drive (with USB drive inserted in the G4), the Select LOGGING Drive window closes and after several seconds the IntelliTrac Map screen appears with the IntelliTrac Setup screen displayed in front of it.



You are now ready to begin setting up IntelliTrac. However, you should use the following section ("IntelliTrac Display Overview") to familiarize yourself with each section of the IntelliTrac display, including how to navigate the software.

IntelliTrac Display Overview

The IntelliTrac display includes important status information and user-defined display options as well as Quick Keys and Hot Keys that allow you to quickly perform tasks.

Understanding the Map Screen

After you select your logging device (hard drive or USB drive, see "Starting IntelliTrac" on page 6) IntelliTrac displays the Map screen.

The Map screen is the main display screen in IntelliTrac and is divided into three areas: the Moving Map area, the Data area, and the Header area.

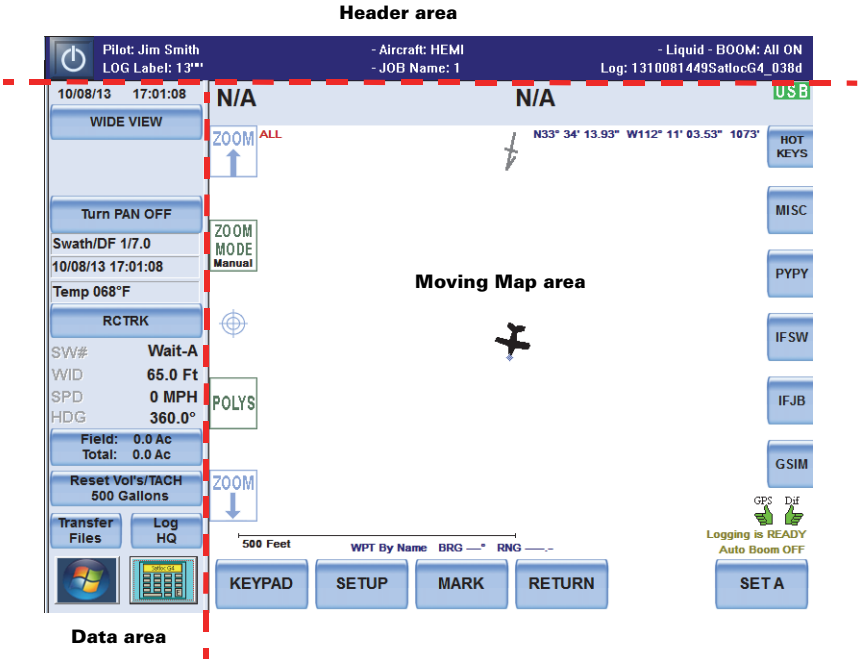


Figure 2-1: Map screen

Moving Map Area

The Moving Map area shows a GIS-generated map of the field when you fly a pattern, create a job file, or open a log. The map includes an outline of the field's shape and size, areas to spray and to not spray, and any marks in the field. The Moving Map area also shows your differential status and whether logging is on or off.

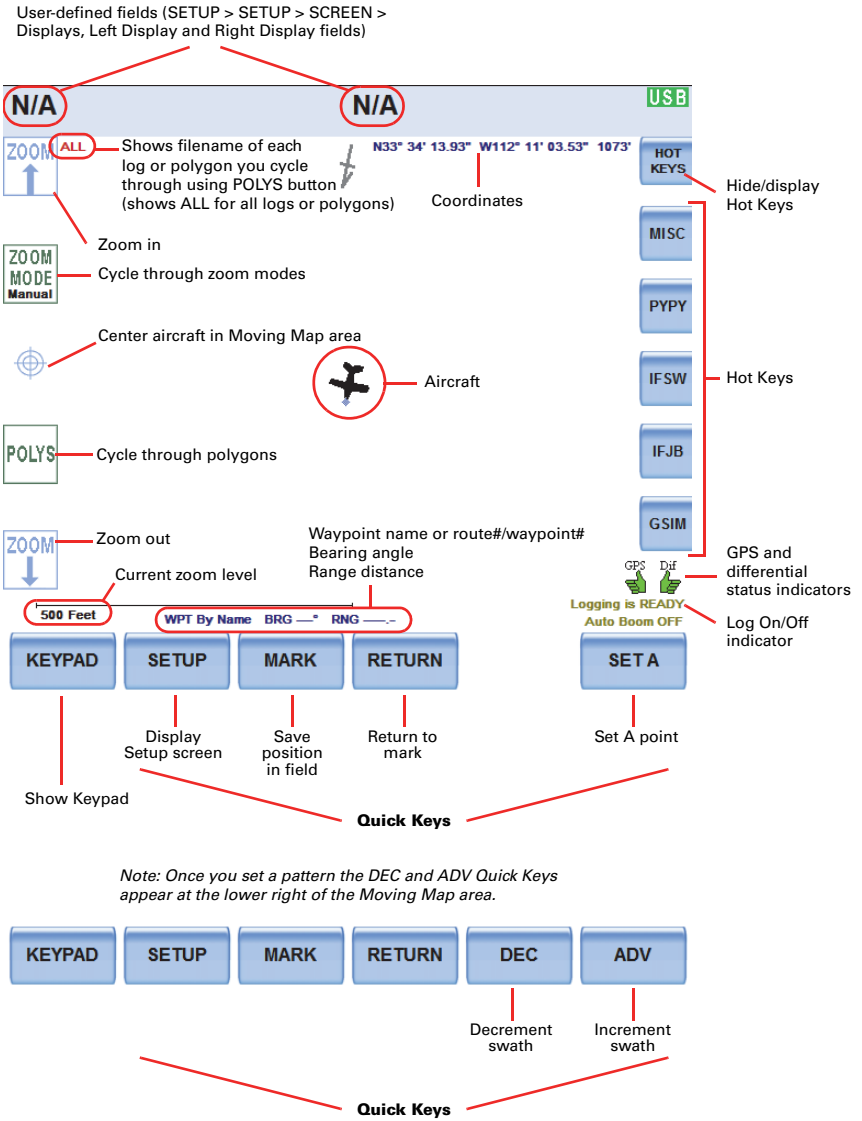


Figure 2-2: Moving Map area

Note: For a list of display options for the Moving Map area's large format display fields, see Appendix A, "Lightbar and Screen Display Options."

Data Area

The Data area shows the current date and time, status information for special functions (such as waypoints and missions, help messages, GPS status), and your current job information including pattern, direction, swath width and number, speed, heading, and sprayed area.

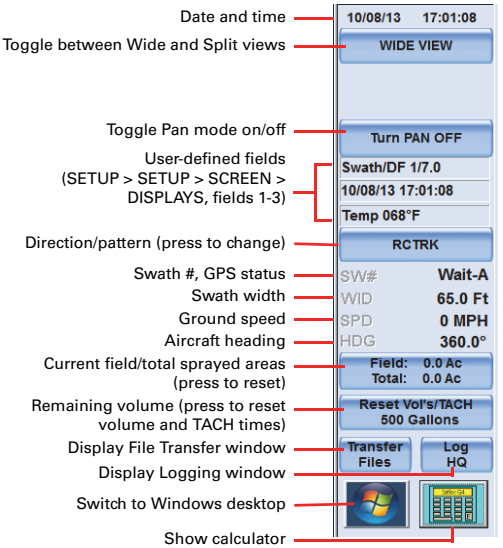
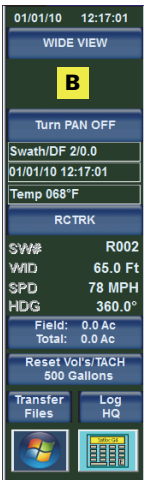
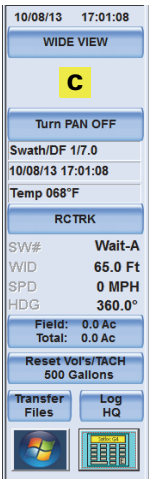


Figure 2-3: Data area

The Data area appears in different colors as follows:

- Blue when IntelliTrac is navigating to a point or mark (**A** below)
- Green when an A|B line is set or loaded (**B** below)
- Gray at all other times (**C** below)





Note: For a list of display options for the Data area's fields 1 – 3, see Appendix A, "Lightbar and Screen Display Options."

Header Area

The Header area displays the following information along the top of the Map screen:

- Pilot name
- Log label
- Aircraft name
- Job name
- Liquid or dry material
- Log name (current log; if no open log then <No Open Log> appears)

Figure 2-4: Header area

Information in the Header area is read-only. You can change some of the data; however, you cannot use the Header area to change the information—use the Logging Setup window. For example, you use the Logging Setup window to change the Pilot Name (see “Adding Job Information to the Log” on page 38).

Pressing Buttons in IntelliTrac

This manual uses the following format as well as screen captures of the buttons to describe pressing buttons in succession:

Button1 > Button2 > Button 3, etc.

Below are two examples of this format and their associated buttons:

- “Press the SETUP button, press the next SETUP button, then press the SCREEN button” is written as...

  Press **SETUP > SETUP > SCREEN**

  and is shown as...

- “Press the KEYPAD button, press the CLEAR button, press the JOB button, then press the ENTER button” is written as:

  Press **KEYPAD > CLEAR > JOB\9 > ENTER**

  and is shown as...

Using the Keypad

You enter custom setup options, values, and commands by pressing buttons on the Keypad.

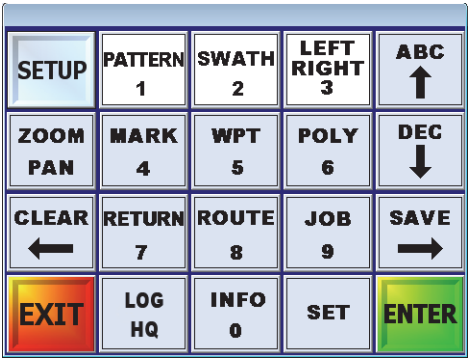
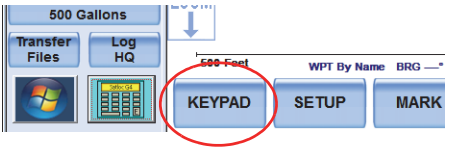


Figure 2-5: Keypad

To display the Keypad:

- Press KEYPAD at the bottom of the Map screen



Note: In this manual, when describing procedures buttons are referred to by all information that appears on the buttons (both text and number, if a number is shown on the button). For example you press LEFT RIGHT\3, MARK\4, or SAVE.

The most often used keys—PATTERN\1, SWATH\2, and LEFT RIGHT\3—are highlighted in white. Table 2-1 describes the function of each key on the Keypad.

Table 2-1: Keypad keys and functions

Key	Function
	Display the first IntelliTrac Setup window (see Figure 2-7 on page 17). You can also display the IntelliTrac Setup window by pressing SETUP at the bottom left of the Moving Map area.
	Scroll through available patterns (the pattern name changes in the Data area). *This key also functions as numeric value 1.*

Table 2-1: Keypad keys and functions *(continued)*

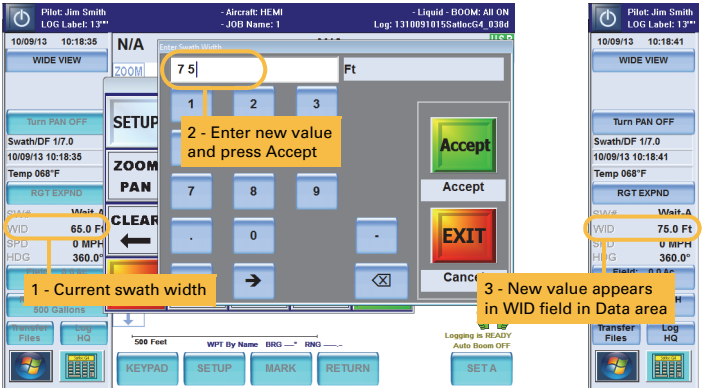
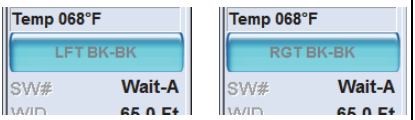
Key	Function
SWATH 2	Display the Enter Swath Width window, where you enter a swath width. The value you enter appears as the WID value in the Data area.  You can also enter the swath width in the IntelliTrac Setup window (see “Entering Basic Job Details (Quick Start)” on page 34). *This key also functions as numeric value 2.*
LEFT RIGHT 3	Change direction (left to right or right to left) of the current pattern. The pattern/direction button in the Data area shows the current direction and pattern—LFT indicates you are flying to the left of the A|B line and RGT indicates you are flying to the right of the A|B line.  Left and right Back-to-Back patterns Left and right Expand patterns When you change the direction the new direction is shown on this button. For example, if you are flying an Expand pattern and the current direction is Left, the direction/pattern button in the Data area shows LFT EXPND. Pressing the LEFT RIGHT/3 button changes the direction to right and the direction/pattern button shows RGT EXPND. Direction does not apply to all available pattern types. For example, you can change the direction of the Expand (EXPND) pattern but not the Squeeze (SQUEZ) pattern. You can also press the pattern/direction button in the Data area to toggle between LFT and RGT for patterns that have the option to fly left or right. *This key also functions as numeric value 3.*
ABC ↑	Create A, B, and C points when creating a pattern. Once you set the pattern this button functions as a swath advance button (if not using the ADV Quick Key or the remote swath advance switch).
ZOOM PAN	Display the Zoom/Pan window. See “Zooming and Panning the Moving Map Area” on page 20 for more information.

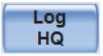
Table 2-1: Keypad keys and functions *(continued)*

Key	Function
MARK 4	Display the Quick Marks window where you can quickly set a mark (1-9). Also, press this key after pressing an action key to (where 'n' is the mark number): • Save a mark (SAVE > MARK\4 > n > ENTER) *Example:* To save a mark as mark 2, press SAVE > MARK\4 > 2 > ENTER • Recall a mark (SET > MARK\4 > n > ENTER) *Example:* To recall mark 2, press SET > MARK\4 > 2 > ENTER • Delete a mark (CLEAR > MARK\4 > n > ENTER) *Example:* To delete mark 2, press DELETE > MARK\4 > 2 > ENTER See "Understanding Marks (Return Points)" on page 68 for more information on marks, including working with marks numbered 10 and higher. *This key also functions as numeric value 4.*
WPT 5	Press this key after pressing an action key to (where 'n' is the waypoint number): • Save a waypoint (SAVE > WPT\5 > n > ENTER) *Example:* To save a waypoint as waypoint 3, press SAVE > WPT\5 > 3 > ENTER • Recall a waypoint (SET > WPT\5 > n > ENTER) *Example:* To recall waypoint 3, press SET > WPT\5 > 3 > ENTER • Delete a waypoint (CLEAR > WPT\5 > n > ENTER) *Example:* To delete waypoint 3, press DELETE > WPT\5 > 3 > ENTER See "Working with Waypoints" on page 84 for more information on waypoints. *This key also functions as numeric value 5.*
POLY 6	Press this key after pressing an action key to (where 'n' is the polygon number): • Save a polygon (SAVE > POLY\6 > n > ENTER) *Example:* To save a polygon as polygon 5, press SAVE > POLY\6 > 5 > ENTER • Recall a polygon (SET > POLY\6 > n > ENTER) *Example:* To recall polygon 5, press SET > POLY\6 > 5 > ENTER • Delete a polygon (CLEAR > POLY\6 > n > ENTER) *Example:* To delete polygon 5, press DELETE > POLY\6 > 5 > ENTER See "Working with Polygons" on page 102 for more information on polygons. *This key also functions as numeric value 6.*
DEC ↓	Swath decrement (if not using the DEC Quick Key on the Map screen or the remote decrement switch).

Table 2-1: Keypad keys and functions *(continued)*

Key	Function
CLEAR ←	Used in conjunction with other keys to either clear a data type from the screen or delete a data type. For example: • To clear job data (polygons and patterns) from the screen: Press CLEAR > JOB > ENTER • To delete the job from memory (you have to confirm the deletion): Press CLEAR > JOB > n > ENTER (where n = the job number) You also use this button to exit IntelliTrac: • To close IntelliTrac and return to Windows: Press CLEAR > CLEAR > Exit To Windows • To close IntelliTrac and shut down Windows Press CLEAR > CLEAR > YES For important information on exiting and powering off IntelliTrac see "Exiting IntelliTrac" on page 29. **⚠WARNING:** *Make sure you understand the difference between clearing a data type from the screen and clearing (deleting) a data type from the database by entering its number. If you delete a job, you also delete the job's polygons and patterns.*
RETURN 7	Press this key and then a number key (1 - 9) to return to a mark numbered 1 - 9. You cannot return to a mark > 9 because only the first digit counts. To return to a mark > 9 use SET (see SET later in this table). *This key also functions as numeric value 7.*
ROUTE 8	Press this key after pressing an action key to (where 'n' is the route number): • Save a route (SAVE > ROUTE\8 > n > ENTER) *Example:* To save a route as route 6, press SAVE > ROUTE\8 > 6 > ENTER • Recall a route (SET > ROUTE\8 > n > ENTER) *Example:* To recall route 6, press SET > ROUTE\8 > 6 > ENTER • Delete a route (CLEAR > ROUTE\8 > n > ENTER) *Example:* To delete route 6, press DELETE > ROUTE\8 > 6 > ENTER *This key also functions as numeric value 8.*
JOB 9	Press this key after pressing an action key to (where 'n' is the job number): • Save a job (SAVE > JOB\9 > n > ENTER) *Example:* To save a job as job 6, press SAVE > JOB\9 > 6 > ENTER • Recall a job (SET > JOB\9 > n > ENTER) *Example:* To recall job 6, press SET > JOB\9 > 6 > ENTER • Delete a job (CLEAR > JOB\9 > n > ENTER) *Example:* To delete job 6, press DELETE > JOB\9 > 6 > ENTER *This key also functions as numeric value 9.*
SAVE →	Use in conjunction with other keys to save a data type. For example, to save a polygon press SAVE > POLY > n (where n = polygon number).
EXIT	Return to the Map screen (saving your changes).

Table 2-1: Keypad keys and functions *(continued)*

Key	Function
LOG HQ	Display the Logging window where you can: • Start a new log • Turn logging off/on • Upload files to or download files from HQ You can also display the Logging window by pressing Log HQ in the Data area. 
INFO 0	Use in conjunction with other keys to view data type information. For example, to display the Marks window that shows the mark number, log label, and log name of all marks, press INFO > MARK. You can also display the Flow Control Setup window by pressing INFO > INFO. *This key also functions as numeric value 0.*
SET	Use in conjunction with other keys to recall a specific data type. For example: • To provide guidance back to a mark press SET > MARK > n > ENTER (where n is the mark number). Use the RETURN key to return to marks numbered 1-9. • To switch the display between Normal (daytime) and Dark (nighttime) mode press SET > SET.
ENTER	Save changes (when you press a combination of buttons to perform a task) and return to the Map screen. For example, to create a mark numbered 10-99 press SAVE > MARK\4 > nn > ENTER.

Setting Up IntelliTrac

After you select your logging drive (hard drive or USB drive, see “Starting IntelliTrac” on page 6) IntelliTrac displays the Map screen.

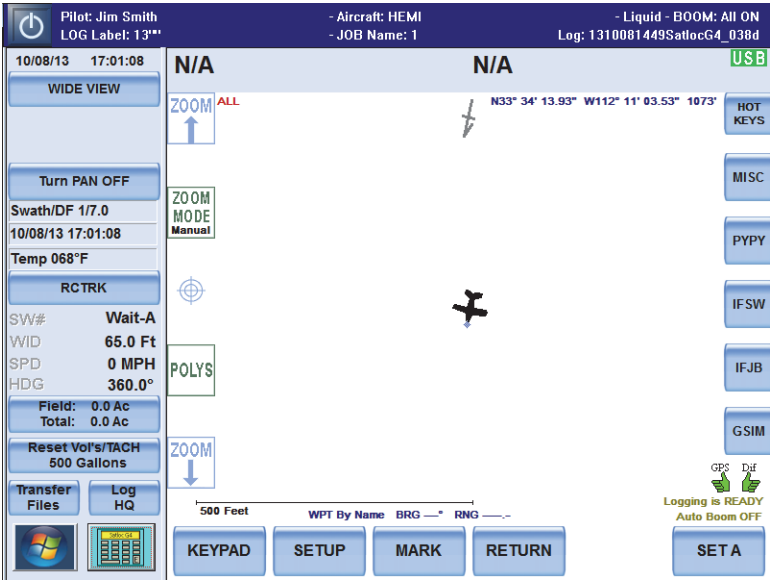


Figure 2-6: Map screen at startup

When you press the Setup button in the Moving Map area the main IntelliTrac Setup window appears (Figure 2-7). From this window you can drill down into additional Setup windows. IntelliTrac Setup windows allow you to set up and customize IntelliTrac based on your installation.

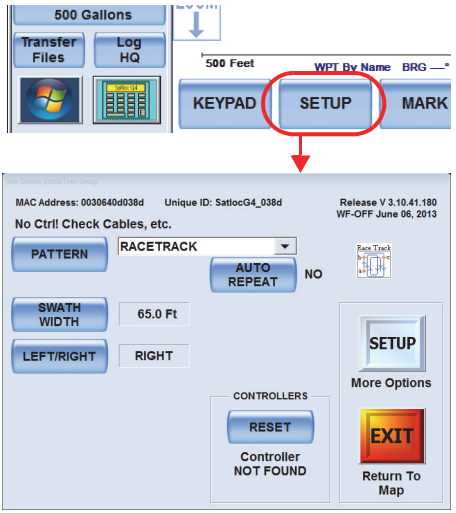


Figure 2-7: Main Setup window

You use the Setup windows (some of them shown in Figure 2-8) to set values or make selections for all the different options within IntelliTrac. You navigate through successive Setup screens via the following buttons:

- SETUP - press to display the next Setup window
- CLEAR - press to display the previous Setup window
- EXIT - press to close the current Setup window and return to the Map screen

There is no CLEAR button on the first Setup window, since going back one screen takes you to the Map screen. To go back to the Map screen you press EXIT.

Additionally, when you press a field button (such as the UNITS button on the System Setup window) the resulting window may contain a SETUP button that provides additional setup options.

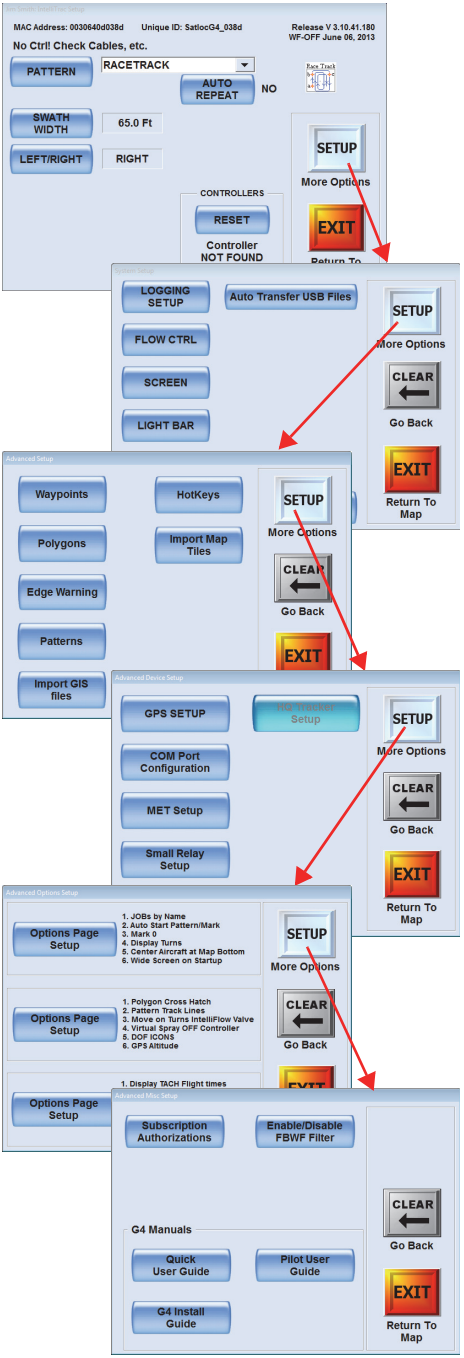
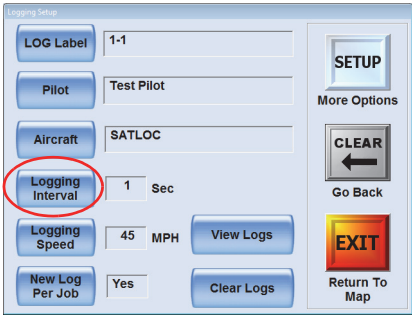


Figure 2-8: Setup windows

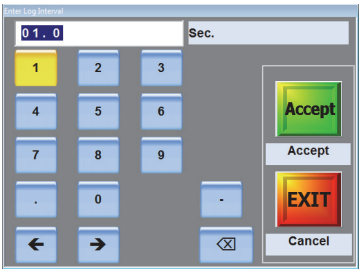
Entering Field Values

To enter field values in IntelliTrac, such as on the Logging Setup window (at right), press the button for the field. For example, to enter the Logging Interval value press the Logging Interval button (circled at right).



IntelliTrac then displays one of two types of data entry windows: numeric or alphanumeric. IntelliTrac determines if the value for the field can be numeric only or alphanumeric and automatically displays the appropriate data entry window.

For example, on the Logging Setup window the Logging Interval and the Logging Speed fields can be only numeric values. If you press the button for either field IntelliTrac displays a numeric data entry window (left window in Figure 2-9). LOG Label, Pilot, and Aircraft, however, can all be alphanumeric values so when you press the button for any of these fields IntelliTrac displays an alphanumeric data entry window (right window in Figure 2-9).



Numeric data entry window

Alphanumeric data entry window

Figure 2-9: Data entry windows

To enter values in either data entry window:

1. Press the button for the field value you want to enter/change.
2. Enter a value using the buttons in the data entry window.
3. Press **Accept**. The data entry window closes and the value you entered populates the appropriate field on the previous window.

   or

   Press **EXIT** to cancel the entry and return to the previous window.

Zooming and Panning the Moving Map Area

Zooming refers to making a section of the screen larger so you can see more detail (zoom in) or making the screen smaller so you can see a larger area and less detail (zoom out).

You can zoom in and out using buttons in the Zoom/Pan window and in the Moving Map area (Figure 2-10). You can also 'pinch' to zoom in and out on the Moving Map area:

- To pinch to zoom in place your thumb and index finger far apart on the Moving Map area then drag (slide) your thumb and finger closer together
- To pinch to zoom out place your thumb and index finger close together on the Moving Map area then drag (slide) your thumb and finger farther apart

Panning refers to moving the screen in a specific direction (such as left or right) so you can see detail that may not be visible on the current screen.

Figure 2-10 illustrates the zooming and panning features of IntelliTrac.

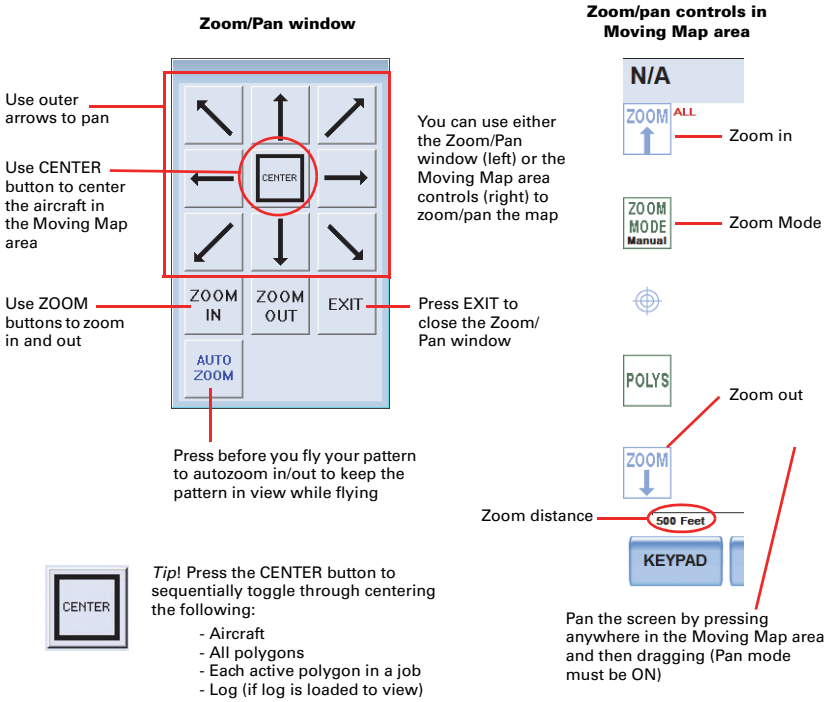
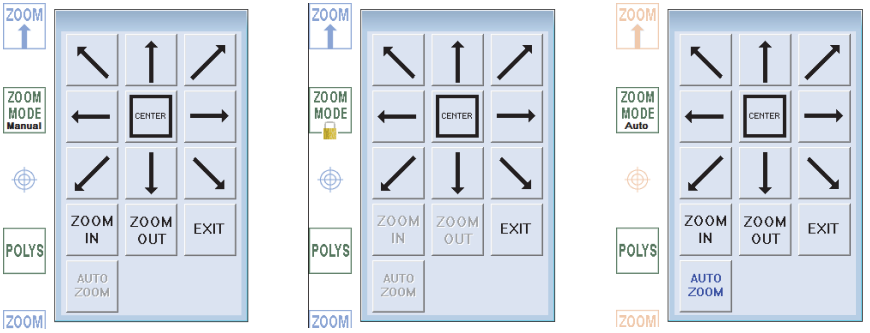

Zoom/Pan window
Zoom/pan controls in Moving Map area
Use outer arrows to pan
Use CENTER button to center the aircraft in the Moving Map area
Use ZOOM buttons to zoom in and out
CENTER
ZOOM IN
ZOOM OUT
EXIT
AUTO ZOOM
You can use either the Zoom/Pan window (left) or the Moving Map area controls (right) to zoom/pan the map
Press EXIT to close the Zoom/ Pan window
Press before you fly your pattern to autozoom in/out to keep the pattern in view while flying
N/A
ZOOM ALL
Zoom in
ZOOM MODE Manual
Zoom Mode
POLYS
Zoom out
ZOOM
Zoom distance
500 Feet
KEYPAD
Pan the screen by pressing anywhere in the Moving Map area and then dragging (Pan mode must be ON)
CENTER
Tip! Press the CENTER button to sequentially toggle through centering the following:
- Aircraft
- All polygons
- Each active polygon in a job
- Log (if log is loaded to view)

Figure 2-10: Zooming and panning

The status of the ZOOM MODE button in the Moving Map area determines what buttons are active in the Zoom/Pan window. You can press the ZOOM MODE button (to change the zoom mode) while the Zoom/Pan window is visible.

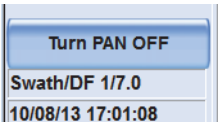


ZOOM MODE Manual | ZOOM MODE Manual Locked | ZOOM MODE Auto

Figure 2-11: ZOOM MODE button and related Zoom/Pan window features

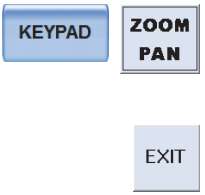
To pan the Moving Map area using the Moving Map:

1. Verify the Pan ON/OFF button in the Data area displays 'Turn PAN OFF' (meaning Pan mode is on). If Pan mode is off (the button displays 'Turn PAN ON') press the button.
2. Press (and hold) your finger on the map and drag in the desired direction.



To pan the Moving Map area using the Zoom/Pan window:

1. Press **KEYPAD** > **ZOOM PAN** to display the Zoom/Pan window.
2. Press the appropriate arrow button to pan the display in the direction of the arrow.
3. Press **EXIT** to close the Zoom/Pan window.

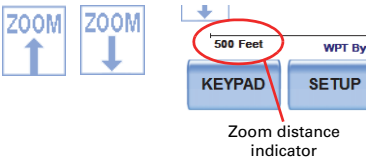


To manually zoom in/out on the Moving Map area using the ZOOM buttons on the Moving Map area:

1. Verify the ZOOM MODE button is set to Manual or Manual Locked. You cannot manually zoom if the button is set to Auto.

Manual zooming enabled | Manual zooming disabled

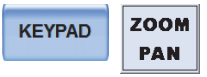
2. On the left edge of the Moving Map area, press the **Zoom In** button (up arrow) or the **Zoom Out** button (down arrow) as many times as needed. Each time you press either button the zoom distance indicator at the bottom left of the Moving Map area decreases (pressing Zoom In) or increases (pressing Zoom Out).



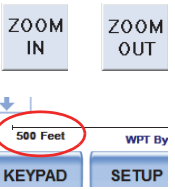
Zoom distance indicator

To zoom in/out on the Moving Map area using the Zoom/Pan window:

1. Press **KEYPAD** > **ZOOM PAN** to display the Zoom/Pan window (see Figure 2-10 on page 20).



2. Press **ZOOM IN** or **ZOOM OUT** (as many times as needed). Each time you press either button the zoom distance indicator at the bottom left of the Moving Map area decreases (pressing ZOOM IN) or increases (pressing ZOOM OUT).



3. Press **EXIT** to close the Zoom/Pan window.

To have IntelliTrac automatically zoom in/out to keep your pattern in view while spraying:

- Press the **ZOOM MODE** button until 'Auto' appears on the button.

Day Mode and Night Mode

IntelliTrac has two screen color options: Normal (daytime) mode and Dark (nighttime) mode (Figure 2-12). Normal is the default mode.

Day mode Night mode

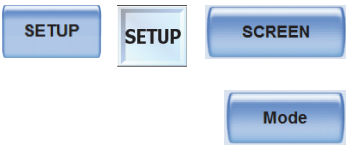
Figure 2-12: Day mode (default) vs. Night mode (dark)

To switch the screen mode using the KEYPAD:

- Press **KEYPAD > SET > SET**

To switch the screen mode using the SETUP menus:

1. Press **SETUP > SETUP > SCREEN**. The Screen Setup window appears (see Figure 7-8 on page 136).
2. Press **Mode**, select a mode from the drop-down list, then press **EXIT**.

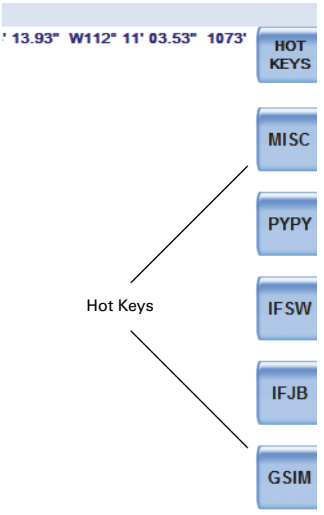


Using Hot Keys

IntelliTrac includes five Hot Keys—shortcut keys that provide access to frequently used functions—along the right side of the Moving Map area. Pressing the HOT KEYS (top) button shows/hides the Hot Keys.

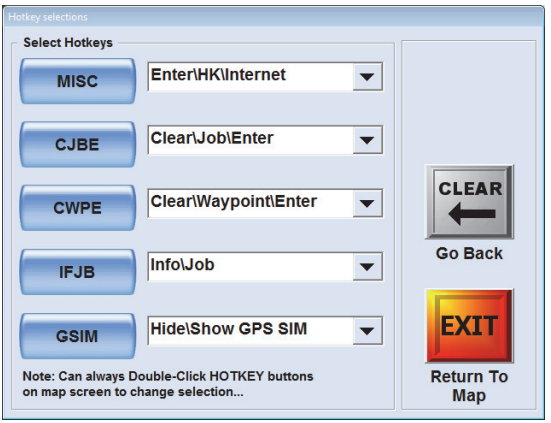
The figure at right shows five specific Hot Keys. You can set each Hot Key to your preferred functionality. See Appendix B, "Hot Key Descriptions" for detailed information on all Hot Keys.

You can set Hot Keys one at a time from the Map screen or set multiple Hot Keys from a Setup window.



To set one or more Hot Keys:

1. Press **SETUP > SETUP > SETUP > Hotkeys**. The Hotkeys selections window appears.



2. Press the button for the Hot Key you want to change and select a Hot Key function from the drop-down list.

   For example (using the above screenshot), to change the first Hot Key press **MISC** then select the desired option from the drop-down list.

3. Repeat step 2 for each additional Hot Key you want to change.
4. Press **EXIT** when finished.

To set a specific Hot Key (shortcut method):

1. Double-tap the Hot Key you want to set. The HotKey selection window for that Hot Key appears.

2. Press the Hot Key button and select the new functionality from the drop-down list. The abbreviation for the functionality appears on the button.
3. Press **Accept**. The window closes and the abbreviation for the functionality appears on the Hot Key.

Setting User-Defined Fields

IntelliTrac includes several fields that allow you to display specific data (such as flow rate, temperature, and GPS altitude) in the Data area and Moving Map area (Figure 2-13).

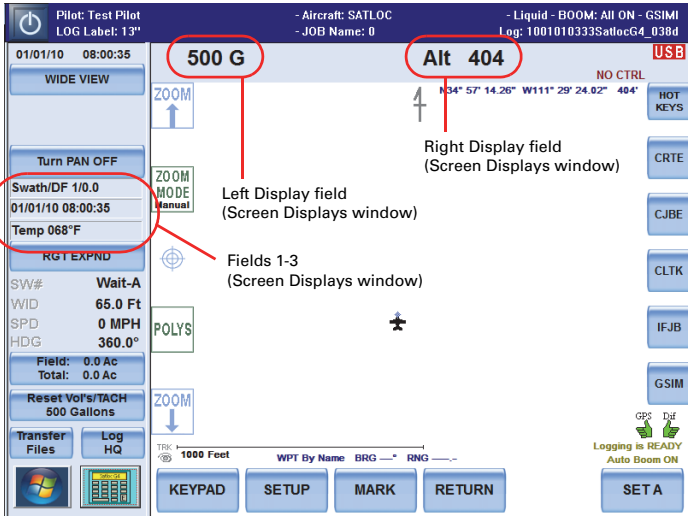


Figure 2-13: User-defined fields in Data area and Moving Map area

You can also set what information is displayed on both the actual lightbar and the virtual lightbar. The LEDs on a G4 lightbar are separated into sections—as shown on the L7 lightbar in Figure 2-14. See “Setting Up the Lightbar” on page 122 and

Appendix A, “Lightbar and Screen Display Options” for complete information on setting up your lightbar.

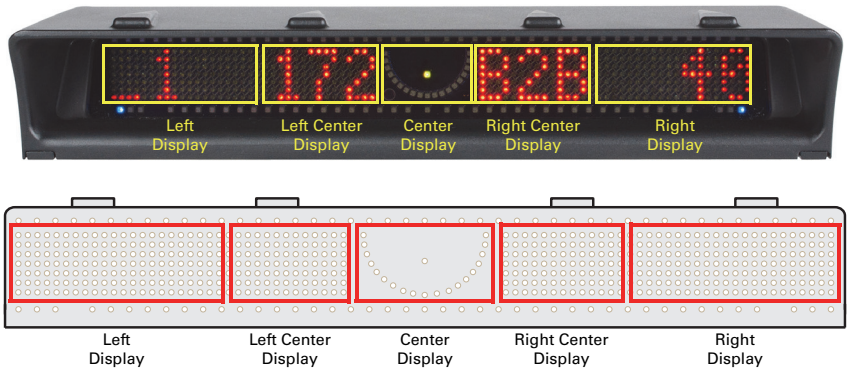
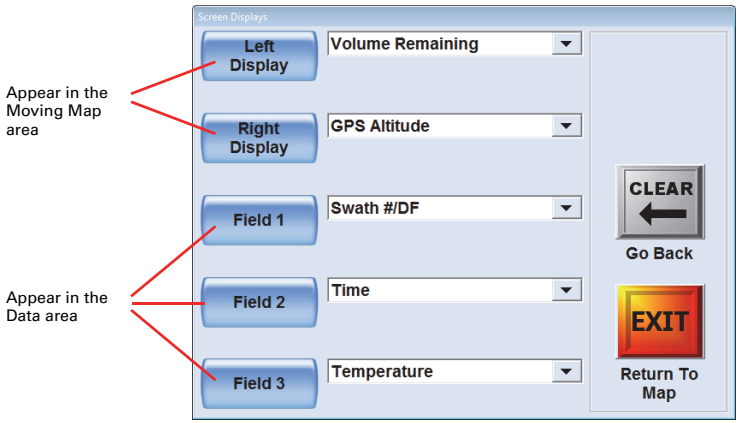


Figure 2-14: Lightbar field LEDs on L7 lightbar

To set user-defined data for display in the Data and Moving Map areas:

1. Press **SETUP > SETUP > SCREEN > Displays**. The Screen Displays window appears.



2. Press the appropriate button then select an option from the drop-down list.
3. Repeat step 2 for each field you want to change then press **EXIT** when finished. The display fields show the newly selected information.

Before You Start Using IntelliTrac

Each time you start IntelliTrac you select an external storage device (USB flash drive) or the IntelliTrac hard drive as the logging read/write device. The option you select affects various file transfer procedures. For more information see "Starting IntelliTrac" on page 6 and "Transferring Data Files" on page 76.

IntelliTrac's default settings should meet most users' needs. However, you can set some systemwide values and options to suit your local requirements. After setting these values or options, you can start using IntelliTrac.

Note: You can save customized settings and transfer them via USB drive to a PC or other G4 units. For more information see "Customized Settings" on page 145.

Understanding Systemwide Settings

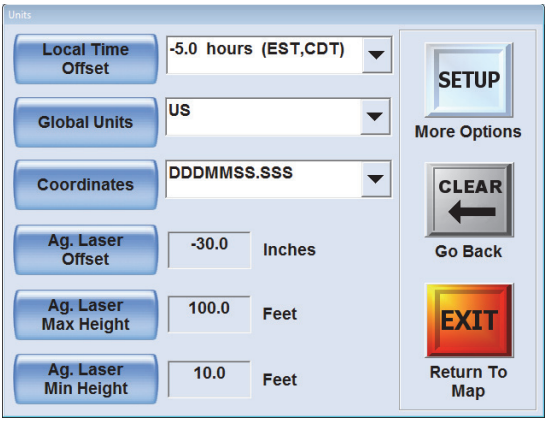
Table 2-2 describes the IntelliTrac systemwide settings you can set.

Table 2-2: IntelliTrac systemwide settings

Field	Description
Local Time Offset	IntelliTrac is set to Greenwich Mean Time (GMT). To convert to local time, you must know the time difference between GMT and local time for both standard and daylight saving. For example, Arizona, U.S. is located in the Mountain time zone and does not observe daylight saving. So, to use IntelliTrac in Arizona, you would set the local time setting to -07:00 (7 hours behind GMT). You can select an offset from (+)14 hours to (-)12 hours in half hourly increments. *Note: If you live in an area that observes daylight saving, you will need to set the local time twice a year.*
Global Units	IntelliTrac uses U.S. standard units (such as feet and pounds) as the default. Use the Global Units field to change this setting to Metric or Nautical. You can also assign units to individual data types (such as speed and area) in the Units Advanced Setup window (see step 4 on page 28).
Coordinates	You can display GPS coordinates as one of the following: DDD.DDDDDDD - decimal degrees (default) DDDMM.MMMM - decimal minutes DDDMMSS.SSS - decimal seconds
Ag. Laser Offset Ag. Laser Max Height Ag. Laser Min Height (laser altimeter fields)	**AgLaser is an optional product. To purchase AgLaser contact your dealer.** AgLaser is a laser altimeter used to provide IntelliTrac with a distance from the aircraft to the ground/crop canopy. The offset is a number that you can set to offset the difference between the actual mounting location of the AgLaser (usually in the wing) and the lowest point of the aircraft (the landing gear) to determine exactly how high the lowest part of the plane is off the ground/crop canopy. *Note: The laser will bounce off the ground or the canopy of the crop the plane is flying over if the vegetation is thick and hides the ground.*

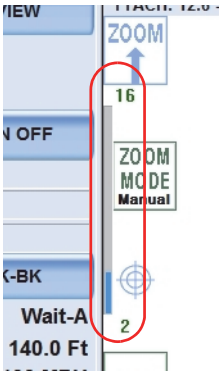
To select systemwide settings:

1. Press **SETUP** > **SETUP** > **UNITS**. The Units window appears.

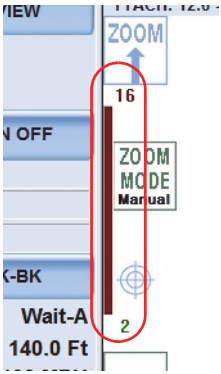


2. For the following press the appropriate button then select an option from the drop-down list. See Table 2-2 on the previous page for information on these fields.
   - Local Time Offset
   - Global Units
   - Coordinates
3. If AgLaser is installed press the appropriate button, enter a value in the data entry window that appears, then press **Accept**.
   - Ag. Laser Offset—number to allow for the difference between the actual mounting location of the AgLaser (usually in the wing) and the lowest point of the aircraft (the landing gear)
   - Ag. Laser Max Height—maximum height above ground
   - Ag. Laser Min Height—used to allow you to get to a minimum above ground (generally used as a warning mechanism)

IntelliTrac displays an AgLaser range bar on the left side of the Moving Map area—at right this range is from 2 (Min Height) to 16 (Max Height). When you are within the Min and Max values the bar is blue; if you are outside the range, the bar is red.

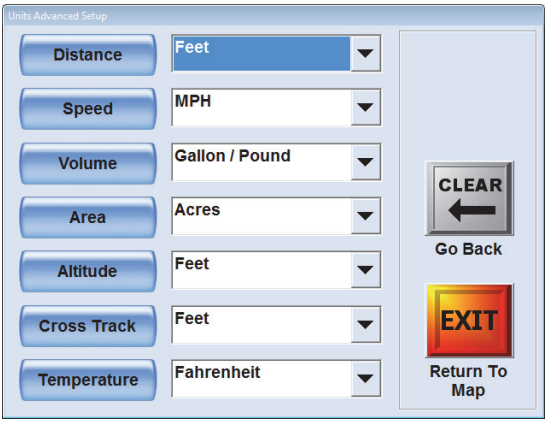


Within Min/Max range



Outside Min/Max range

4. To override the global units for certain values, press **SETUP** on the Units window. The Units Advanced Setup window appears.



5. For each value you want to change press the appropriate button and select an option from the drop-down, then press **EXIT** to return to the Map screen.

Detecting Your Flow Control System

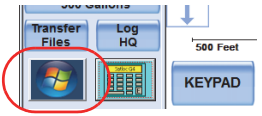
IntelliTrac automatically detects if a flow control system is connected to the G4 and what type it is: AerialACE™, IntelliFlow®, or IntelliGate™. If IntelliTrac detects a flow control system it displays the type at the top of the Flow Control Setup window. If IntelliTrac does not detect a flow control system, "No Ctrl! Check Cables, etc." appears at the top of the Flow Control Setup window. For more information see "Spray Options" on page 39 and "Flow Control" on page 140. See Figure 3-4 on page 39 for an example of both messages (flow control detected and flow control not detected).

Switching Between IntelliTrac and the Windows Desktop

You can switch between IntelliTrac and the Windows desktop without closing IntelliTrac. For example, you may want to work with files located on the hard drive or on a USB drive. When you are finished working with these files, you can quickly return to IntelliTrac.

To switch to the Windows desktop from IntelliTrac:

- On the Map screen, press the Windows button in the lower left of the Data area.



To switch to IntelliTrac from the Windows desktop:

- On the Windows taskbar, double-tap the IStarLaunch button.

Exiting IntelliTrac

You have two options when exiting IntelliTrac:

- Exit IntelliTrac and display the Windows desktop
- Exit IntelliTrac and shut down Windows

⚠WARNING: *To protect your data, you must exit (shut down) IntelliTrac before you turn the power source off. If you power off without first exiting IntelliTrac you risk corrupting your data. Data integrity can be ensured only if you exit IntelliTrac before powering off.*

To exit IntelliTrac:

1. Press **KEYPAD > CLEAR > CLEAR**. The exit window appears.

2. Press **YES** to exit IntelliTrac and shut down Windows.

   or

   Press **EXIT TO WINDOWS** to exit IntelliTrac and display the Windows desktop.

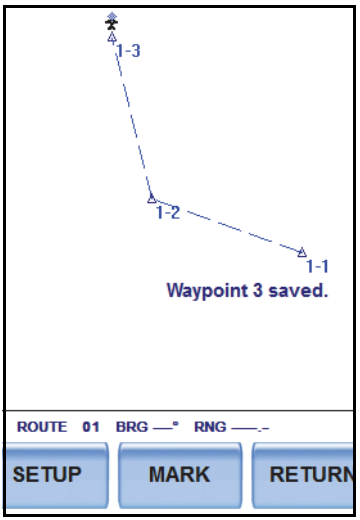
Chapter 3: Work Options

Aerial Guidance Terms and IntelliTrac
Entering Basic Job Details (Quick Start)
Understanding Job and Log Data
Spray Options
Spray Boom Settings
Using Prescription Maps

Aerial Guidance Terms and IntelliTrac

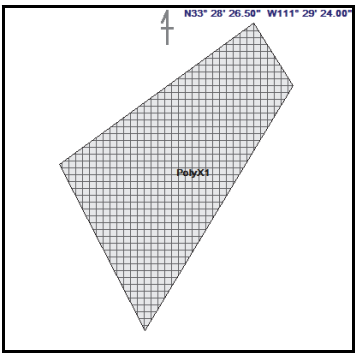
IntelliTrac uses common aerial guidance terms on the Map screen and in the various windows you can display. This section provides a brief summary of these common terms and how they are used in IntelliTrac. The remaining sections of this chapter and the chapters that follow provide detailed information on how these terms apply to using IntelliTrac and all its advanced features.

Waypoint - A waypoint represents the GPS coordinates (latitude and longitude) of a significant location you want to record (or set). For example, you may want to set a waypoint at the beginning or end of your spray job or at a location in your route at which you will stop or change course. When you set a waypoint a message briefly appears on the screen indicating the waypoint number being saved ("Waypoint 3 saved." at right). IntelliTrac also displays the route-waypoint number for each waypoint in a route (three waypoints in example at right).

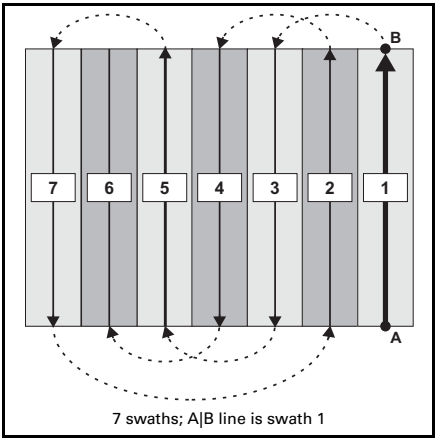


Route - A route is a group of one or more waypoints. Each waypoint you set is automatically assigned to a route in IntelliTrac—even if there is only one waypoint. IntelliTrac displays the route-waypoint number for each waypoint in a route (one route with three waypoints in example at right).

Polygon - A polygon is the shape of a field (or other area, such as a forest plot) that you define. You can create two types of polygons in IntelliTrac—an inclusion polygon (enclosed area you spray, shown at right) and an exclusion polygon (enclosed area you do not spray). Inclusion and exclusion polygons visually show you the borders of your spray/no-spray areas in the Moving Map area. Just as a Route is made up of one or more Waypoints, a Polygon is made of multiple poly points that you set.



Pattern - A pattern is the specific order of passes (or swaths) you make when flying your aircraft. IntelliTrac includes several built-in patterns from which to choose. For example, you may want to fly a Back-to-Back pattern (shown at right) where you fly consecutive swaths parallel to the A|B line. There are two types of patterns in IntelliTrac—an open pattern, where you can fly an unlimited (or open) number of swaths because the pattern is not dependent on the size of the field, and a closed pattern, where the number of swaths you can fly is limited (or closed) because you define the width of the field.



7 swaths; A|B line is swath 1

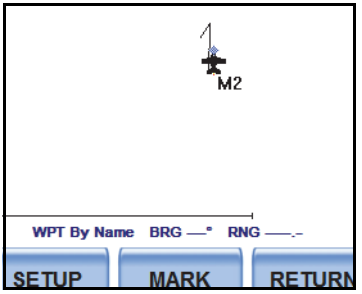
Job - A job is an IntelliTrac entity comprising one or more polygons and one or more flown patterns. You can save, delete, add to, and subtract from a job.

Log - A log is a set of data that includes exact positioning and rate of spray application, precise time and date record, flight speed, altitude, patterns flown, and GPS position quality. IntelliTrac records this information in the log any time you are above a pre-designated airspeed. You can add job information to a log.

Swath - A swath is a strip or row of a field that you fly. For example, in the above pattern there are seven swaths.

A|B line - An A|B line is the initial guideline of a pattern. Each subsequent swath of the pattern is based on this initial guideline. The beginning of an A|B line is Point A and the end of the A|B line is Point B. For example, in the above pattern the A|B line is swath 1.

Mark - A mark is a point to which you want to return, such as a last sprayed point. When you create a mark, IntelliTrac saves the following current swathing information: swath number, pattern, A|B line, direction, job ID, acreage, swath width, and spray information.



Entering Basic Job Details (Quick Start)

Note: If you exit IntelliTrac (see "Exiting IntelliTrac" on page 29) with a saved job active, that job is active when you restart IntelliTrac. If you exit with no job active (<No JOB Name> is displayed in the Header area), JOB Name: 0 is displayed in the Header area.*

After you complete basic setup in IntelliTrac (see "Starting IntelliTrac" on page 6) and each time you start IntelliTrac thereafter, the IntelliTrac Setup window appears in front of the Map screen.

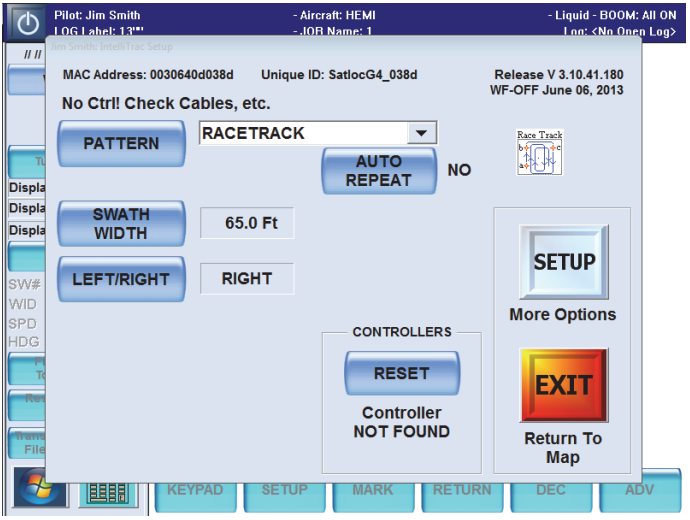


Figure 3-1: IntelliTrac Setup window on startup

In addition to being the starting point to all other SETUP windows, the IntelliTrac Setup window enables you to enter the following basic job information (for more information on jobs, see "Working with Jobs" on page 98):

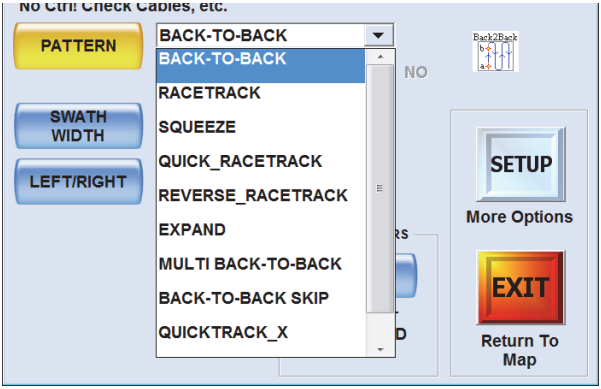
- Pattern (with or without auto-repeat)
- Swath width
- Direction (left/right)

Tip! *If you installed a dry or liquid flow controller and IntelliTrac and the controller stop communicating, "Controller NOT FOUND" appears below the RESET button. Press RESET to re-establish the connection.*

To enter basic job information in the Setup window:

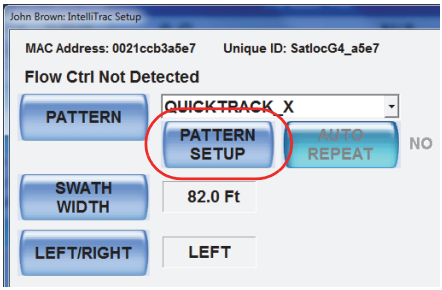
1. If you are on the Map screen with the Setup window not visible, press **SETUP** (along the bottom of the Moving Map area). The IntelliTrac Setup window appears (Figure 3-1 above).

2. Press **PATTERN** and select the desired pattern type from the drop-down list.

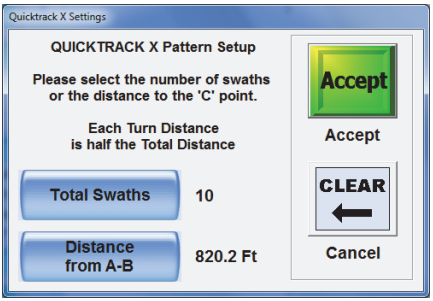


Additional buttons/fields appear when you select QUICKTRACK_X or MULTI BACK-TO-BACK.

- If you select QUICKTRACK_X, the PATTERN SETUP button appears below the drop-down.

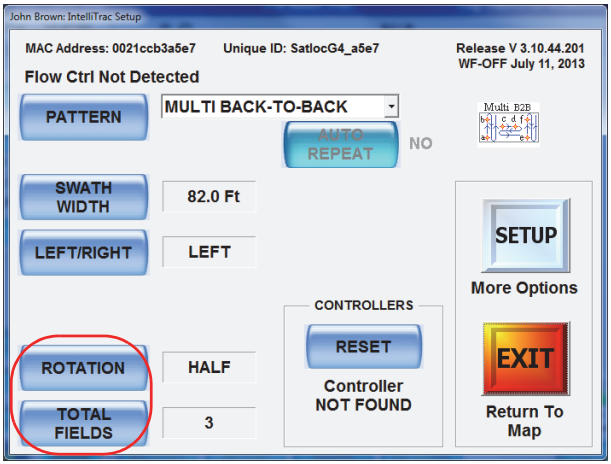


i. Press **PATTERN SETUP**. The Quicktrack X Settings window appears.



ii. Press either **Total Swaths** or **Distance from A-B** then in the data entry window that appears enter a value and press **Accept**. For the value you do set IntelliTrac recalculates the other value. For example, if Total Swaths is 10 and you set it to 6 IntelliTrac reduces the Distance from A-B value accordingly.

- If you select MULTI BACK-TO-BACK, the ROTATION and TOTAL FIELDS buttons appear in the bottom left of the window.



  i. Press **ROTATION** to toggle between HALF and FULL.

  ii. Press **TOTAL FIELDS**, and in the data entry window that appears enter a value then press **Accept**.

3. If the AUTO REPEAT button is set to NO press the button to toggle the setting to YES to repeat the current pattern when you complete it.

   If auto repeat is NO, IntelliTrac reverts to a Back-to-Back pattern when you have completed the current pattern.

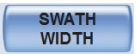
   Note: You can auto-repeat the following patterns (the AUTO REPEAT button is enabled when you select any of the following patterns):

   RACETRACK
   QUICK_RACETRACK
   SQUEEZE
   REVERSE_RACETRACK

   You cannot auto-repeat the following patterns (the AUTO REPEAT button is disabled when you select any of the following patterns):

   BACK-TO-BACK
   MULTI BACK-TO-BACK
   QUICKTRACK_X
   EXPAND
   BACK-TO-BACK SKIP

4. Press **SWATH WIDTH**. The Enter Swath Width window appears.



   Enter a swath width then press **Accept** to accept the value and close the window. The new value appears next to the SWATH WIDTH button.

5. Press **LEFT/RIGHT** to select a direction (pressing the button toggles the setting between LEFT and RIGHT).

Understanding Job and Log Data

If logging is enabled (default setting) IntelliTrac automatically creates a log file for each job flown, assigning the time/date stamp of each new log as the log file name. You can enter additional (optional) details to your job, such as a name/number, pilot name, and aircraft name/number and this information is also captured in the log file.

Note: You must enter the pilot name and aircraft number for HQ to be active.

To turn logging off:

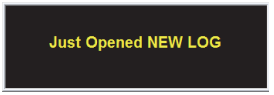
- Press **KEYPAD > Log HQ > Turn Logging Off**.

A "LOG was Just CLOSED" message appears briefly after IntelliTrac closes the current log.

To turn logging back on:

- Press **KEYPAD > Log HQ > Start New Log**.

A "Just Opened NEW LOG" message appears briefly as IntelliTrac opens a new log.



Log Data

Log data includes the following information:

- Exact positioning
- Rate of spray application
- Precise time and date record
- Flight speed, altitude, patterns flown
- GPS position quality

IntelliTrac records this information in the log when you are above a pre-designated airspeed. The default is 45 mph but you can change this via the Logging Speed field (see "Changing Logging Options" on page 139).

Note: IntelliTrac records no information if you are below the logging speed.

Adding Job Information to the Log

In addition to the default information that IntelliTrac logs (see “Log Data” on the previous page) you add specific job information to a log in the Logging Setup window.

The LOG Label, Pilot, and Aircraft values appear in the Header area—see “Header Area” on page 11 for more information.

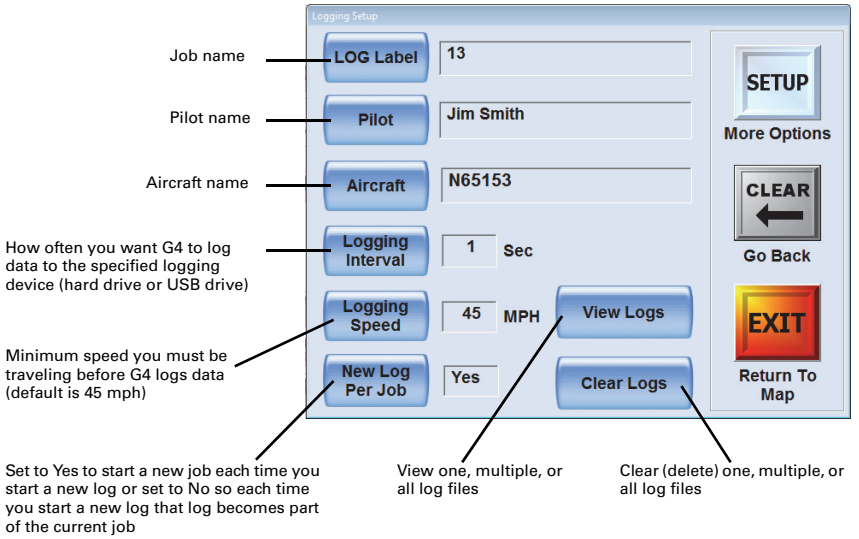

Logging Setup
Job name
LOG Label
13
Pilot name
Pilot
Jim Smith
Aircraft name
Aircraft
N65153
How often you want G4 to log data to the specified logging device (hard drive or USB drive)
Logging Interval
1
Sec
Minimum speed you must be traveling before G4 logs data (default is 45 mph)
Logging Speed
45
MPH
Set to Yes to start a new job each time you start a new log or set to No so each time you start a new log that log becomes part of the current job
New Log Per Job
Yes
View Logs
View one, multiple, or all log files
Clear Logs
Clear (delete) one, multiple, or all log files
SETUP
More Options
CLEAR
Go Back
EXIT
Return To Map

Figure 3-2: Logging Setup window

To add job information to a log:

1. Press **SETUP > SETUP > LOGGING SETUP**.

2. For the LOG Label, Pilot, Aircraft, Logging Interval, and Logging Speed fields, press the appropriate button and in the data entry window that appears enter a value and press **Accept**.

   For the LOG Label, Pilot, and Aircraft fields IntelliTrac displays an alphanumeric data entry window. For the Logging Interval and Logging Speed fields IntelliTrac displays a numeric data entry window. See “Entering Field Values” on page 19 for more information on data entry windows.

For instructions on viewing and clearing log data see “Viewing Log Data” on page 72 and “Clearing Log Data” on page 73.

Spray Options

You set your spray options in the Flow Control Setup window.

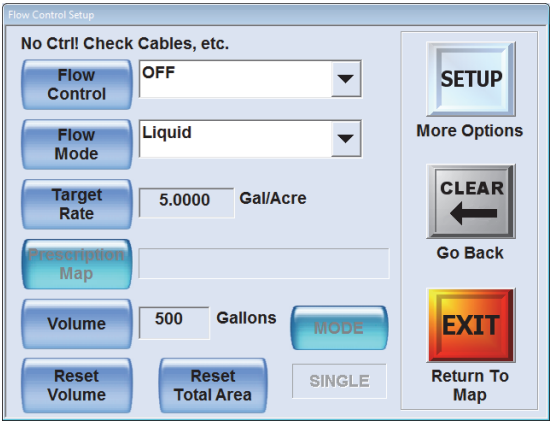


Figure 3-3: Flow Control Setup window

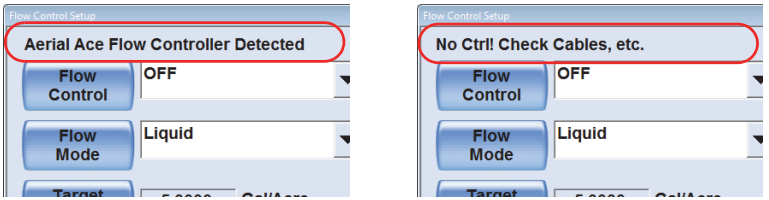
To display the Flow Control Setup window:

- Press **SETUP > SETUP > FLOW CTRL**.

or

- Press **KEYPAD > INFO\0 > INFO\0**.

IntelliTrac automatically detects if a flow control system is connected and what type it is: IntelliFlow, IntelliGate, AerialACE, or a third-party product such as AutoCal. As shown in Figure 3-4 IntelliTrac displays the flow control system name (if detected) or an error message (no flow control system detected).



Flow control system detected

No flow control system detected

Figure 3-4: Flow control system detection message

IntelliTrac supports constant rate and variable rate flow control, as well as liquid and dry application (flow mode).

If you have a flow control system installed, you will need to set your basic job spray options in IntelliTrac, including:

- Spray application type (liquid or dry - displays in the Header area as LIQUID or DRY)
- Target spray rate in Gal/Acre for liquid and Lb/Acre for dry (U.S. units - see "Understanding Systemwide Settings" on page 26 for details on changing the default measurement units used throughout IntelliTrac)
- Spray volume

You can also change your flow lead time, which represents the flow control system's reaction time to reach the proper rate at the proper location.

Note: If defining and flying polygons, you can set the flow control system to automatically turn on/off when entering/leaving a polygon. This application requires the hookup of the spray on/off relay. Contact your local dealer for more information.

Table 3-1 describes each button/field of the Logging Setup window.

Table 3-1: Logging Setup window button/field descriptions

Button/Field	Description
Flow Control	Select from the following: • Constant Rate - Constant rate flow control • Constant Rate Poly - Constant rate flow control that automatically turns on/off at polygon borders. • Monitor Only - You monitor the flow system, controlling the flow manually. For example, use this mode to calibrate your flow meter or for logging rates if using AutoCal. • Variable Rate - Automatically adjusts the flow rate based on the prescription map you load—this option is available only if you have a prescription map loaded. For variable rate spray applications you can select a prescription map from the Prescription Map window. See "Using Prescription Maps" on page 45 for more information. • OFF
Flow Mode	Select Liquid or Dry to match your spray application type (Flow Control field).
Target Rate	Set your target rate in gallons per acre for liquid applications or pounds per acre for dry applications (US units).
Prescription Map	Displays the loaded prescription map. You can also select a different prescription map from the drop-down list. *Note: You must have an active prescription map subscription for this field to be active (to use prescription maps).*
Volume	Set the beginning hopper volume. This value counts down as material is sprayed.
Reset Volume	If you refill the hopper with the same amount you can reset the volume to the last amount you entered using the Reset Volume button. The volume resets to the default value of 500 gallons.
Reset Total Area	Reset the total sprayed area (as shown in the Data area) back to 0. The Total Area counter resets to 0.

Table 3-2 summarizes the flow control options and how the various parameters you can select in the two Flow Control setup windows affect each option. The defaults shown in Table 3-2 are recommended, but may not be suitable for all applications.

Table 3-2: Flow control options summary

	Default Lead Time (Variable Rate)	Default Lead Time (Edge)	Auto Boom Yes/No Option	Target Rate
Variable Rate	0.5 s	0.1 s	YES - Pump On, Valve Static NO - Valve Closed, Rate 0	N/A
Constant Rate Poly	N/A	0.1 s	YES - Pump On, Valve Static NO - Valve Closed, Rate 0	N/A
Constant Rate Manual	N/A	N/A	N/A	Actual Spray Rate

Setting Spray Options - Volume

You set the beginning hopper volume in the Volume field. This value counts down as material is sprayed. If you refill the hopper with the same amount you can reset the volume to the last amount you entered using the Reset Volume button. You can also reset the total sprayed area (as shown in the Data window) back to 0.

To reset the spray volume or area counters, press Reset Volume or Reset Total Area. The volume resets to the default value of 500 gallons and the Total Area counter resets to 0.

Note: When AutoCal reports that it is using dry flow control, the volume and rate is based on weight (volume = 1000 kg; rate=100 kg/h).

Spray Boom Settings

The boom options you set determine which booms are active (spraying) during full-boom and half-boom spraying operations.

Note: Spray boom settings in IntelliTrac are for display purposes only. The settings do not control the spray volume of the actual physical boom.

You set spray boom options in the Spray Boom Setup window (Figure 3-5).

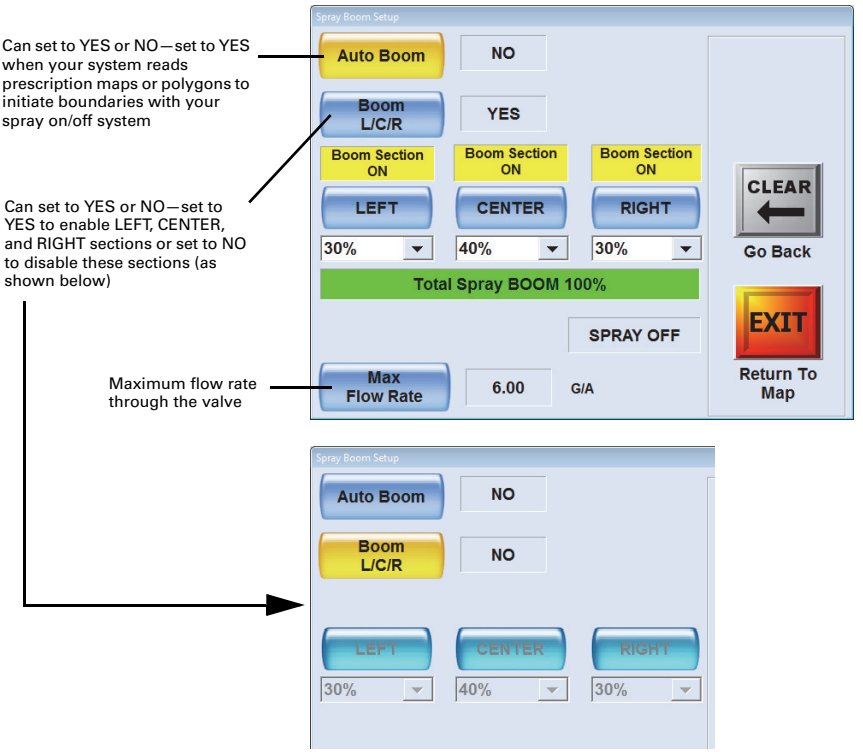


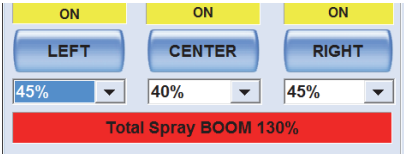
Figure 3-5: Spray Boom Setup window

If Boom L/C/R is set to YES, you can use the LEFT, CENTER, and RIGHT fields or the boom switches to control the left, center, and right spray areas on the display and the Spray Boom Setup window displays a yellow message indicating the left, center, and/or right boom section is 'ON.'

If Boom L/C/R is set to NO, the LEFT, CENTER, and RIGHT fields are disabled and you cannot use boom switches to control the left, center, and right spray areas on the display.

You can adjust the spray percentage (display only) for the left, center, and right boom sections. The left and right booms spray the same percentage (from 10% to 50%). For example, if you set the left boom to 20%, the right boom automatically adjusts to 20%. You can adjust the center boom independently (from 0% to 80%).

All three booms must total 100%. When they do, IntelliTrac displays a green message stating 'Total Spray BOOM 100%' (see Figure 3-5 previous page); if they do not total 100% IntelliTrac displays a red warning message with the total (at right).

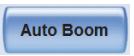


Max Flow Rate is the maximum rate of flow through the valve—default is 6.0 gallons/acre (G/A) for liquid flow mode and 50.07 pounds/acre (Lb/A) for dry flow mode.

To set spray boom settings:

1. Press **SETUP > SETUP > FLOW CTRL > SETUP > SETUP**. The Spray Boom Setup window appears (see Figure 3-5 on the previous page).

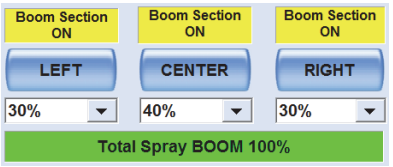
2. Press **Auto Boom** to toggle the value between YES (on) and NO (off).



3. Press **Boom L/C/R** to toggle the value between YES (on) and (NO) off.

   - When set to YES the LEFT, CENTER, and RIGHT buttons are available.
   - When set to NO the LEFT, CENTER, and RIGHT buttons are dimmed and unavailable.

4. With Boom L/C/R set to YES set the desired spray percentage for the left, right, and center boom sections:

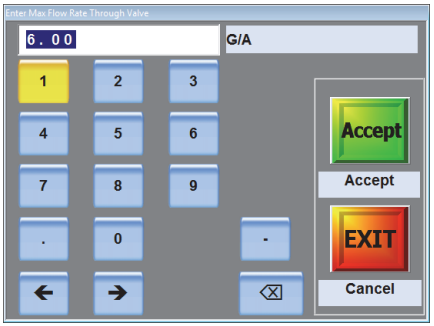


   a. Press the desired boom section button.

   b. Select the desired percentage from the drop-down list. Remember, when you adjust the LEFT or RIGHT value, the LEFT or RIGHT value you did not adjust is adjusted automatically. Make sure the total spray boom percentage is 100%.

5. Set the maximum flow rate:

   a. Press **Max Flow Rate**. The Enter Max Flow Rate Through Valve window appears.



   b. Enter a rate and press **Accept**.

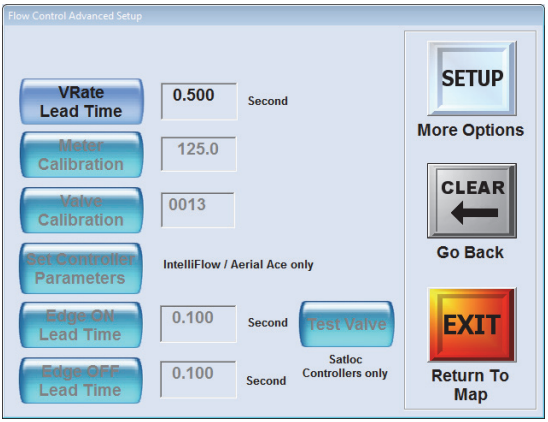
Changing the Flow Lead Time

There are two types of flow lead time: variable rate lead time and edge lead time.

- VRate (variable rate) Lead Time - time in seconds it takes IntelliTrac to switch rates. However, you should not need to adjust this setting—IntelliTrac's default setup is designed to adjust for the rate changes automatically based on typical flight speeds.
- Edge Lead Time (On/Off) - 'On' setting represents how early the flow control reacts to reach the proper rate at the proper location; 'Off' represents how early the flow control begins to turn off when exiting a polygon or prescription map.

To change the flow lead time:

1. Press **SETUP > SETUP > FLOW CTRL > SETUP**. The Flow Control Advanced Setup window appears.



2. Set a flow lead time (VRate Lead Time, Edge ON Lead Time, Edge OFF Lead Time):
   a. Press the desired flow lead time button.
   b. Enter a value (in seconds) in the data entry window that appears.
   c. Press **Accept**.

Using Prescription Maps

A prescription map (also Rx map or pmap) is a map of a particular land area divided into sections of different application rates. You use prescription maps in conjunction with flow control functionality to automatically spray different areas at different flow rates.

Figure 3-6 shows a prescription map as it appears in the Moving Map area.

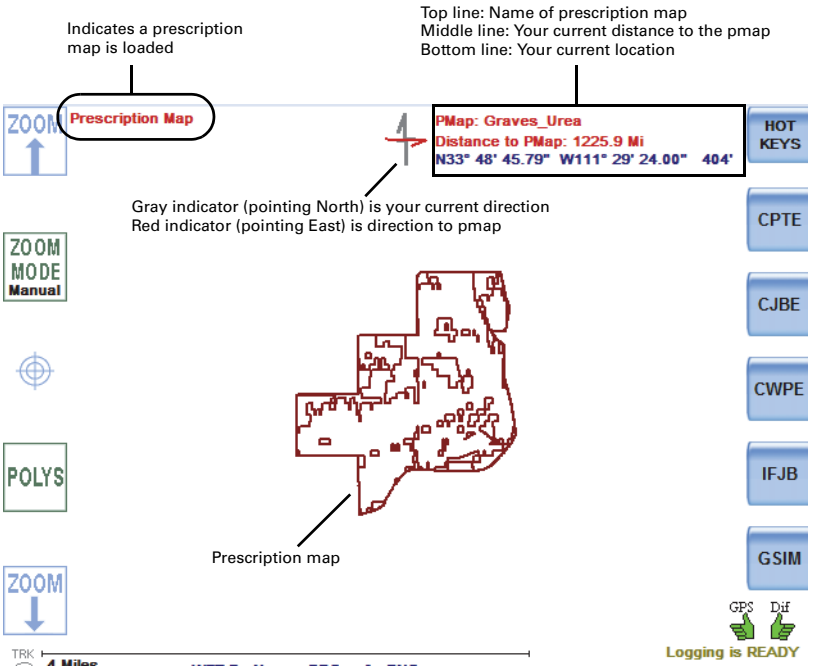


Figure 3-6: Prescription map

Before you can use a prescription map you must:

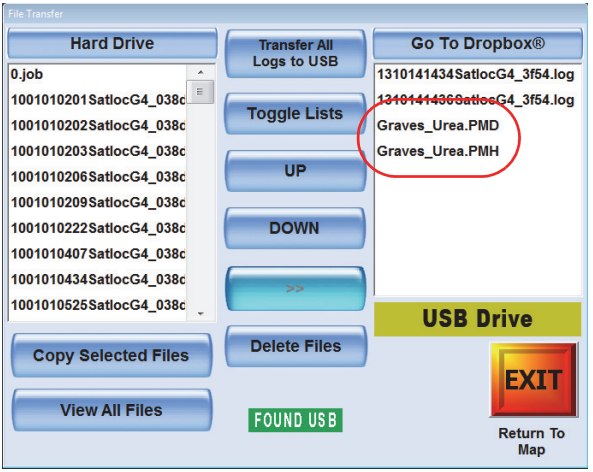
- Have a valid prescription maps subscription and have entered the subscription information into IntelliTrac (see “Entering Subscription Information” on page 120)
- Import (transfer) the prescription map files to the IntelliTrac hard drive
- Load the prescription

Importing a Prescription Map

If this is the first time you are loading a specific prescription map you must load the map from a USB drive or your Dropbox® account. When you load a prescription map it is stored on the G4 hard drive—you can then load that map for use. If you load the prescription map while you have a job active you can save that job with the prescription map so the next time you open that job the prescription map is available.

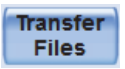
When you first transfer a prescription map (from a USB drive or your Dropbox account) you actually import two files—a .PMD file and a .PMH file.

When you are ready to use the prescription map you simply select a single prescription map (see "Loading a Prescription Map" on the next page).



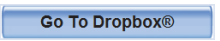
To import a prescription map:

1. If your prescription map files are stored...
   - On a USB drive, insert the USB drive into the G4 and proceed to step 2.
   - In your Dropbox account, you will access your account in step 3.
2. Press **Transfer Files**. The File Transfer window appears (see screenshot at the top of this page).



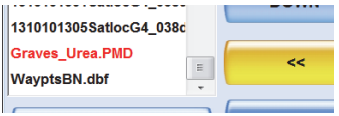
3. If your files are on the flash USB they will appear in the right list box (as shown in screenshot at the top of this page).

   If your files are in your Dropbox account, press **Go To Dropbox** and follow your usual Dropbox procedure to select your files.

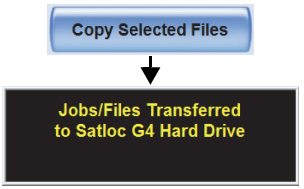


4. With the prescription map files showing in the right list box:
   a. Select the first file you want to transfer. The arrow button changes to left pointing arrows and is no longer dimmed.

   b. Press the arrow button. The selected file appears red in the Hard Drive list (see at right), indicating it is ready to be copied to the hard drive.



   c. Repeat steps a and b for each additional file you want to transfer.
5. Press **Copy Selected Files**. A message similar to the one at right appears and the files are transferred.



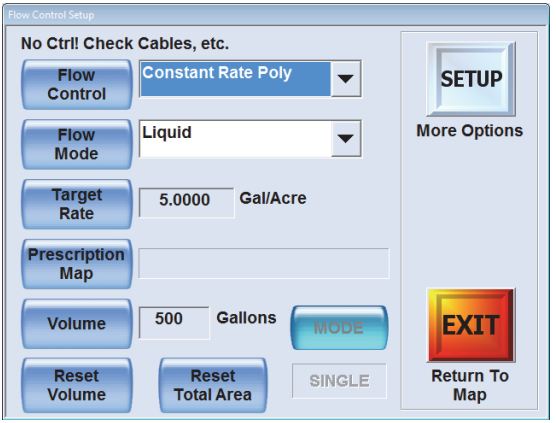
6. Press **EXIT** to return to the Map screen.

Loading a Prescription Map

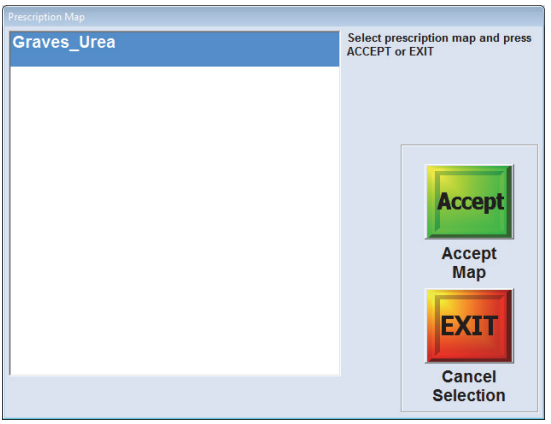
After you transfer prescription map files to the G4 hard drive you can load the file into IntelliTrac for use. If you no longer need the prescription map, you can clear it from the screen.

To load a prescription map (or replace the currently loaded prescription map):

1. Press **SETUP > SETUP > FLOW CTRL**. The Flow Control Setup window appears—note the Prescription Map button is active (at least prescription map in on the G4 hard drive).



2. Press **Prescription Map**. The Prescription Map window appears showing a list of all available prescription maps.



3. Select the prescription map you want to load then press **Accept**. A message similar to the one at right appears indicating the prescription map is loading.

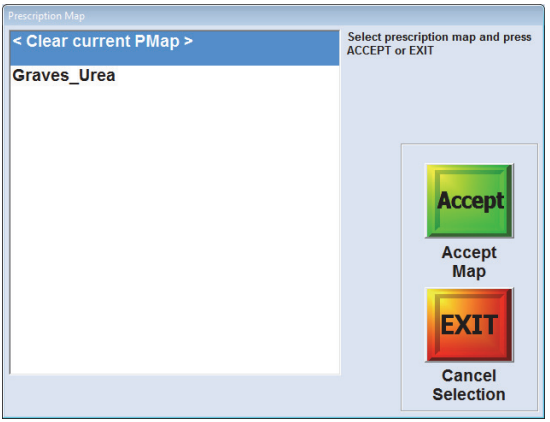
4. When the message closes press **EXIT** to close the Flow Control Setup window. The prescription appears in the Moving Map area and additional map information appears in the upper left and right of the area (see Figure 3-6 on page 45).

To clear a prescription from the Map screen:

1. Press **SETUP > SETUP > FLOW CTRL**. The Flow Control Setup window appears (see step 1 on the previous page).

2. Press **Prescription Map**. The Prescription Map window appears showing a list of all available prescription maps as well as an option for clearing the currently loaded prescription map.

   The <Clear current PMap> option appears only if you have a prescription map currently loaded (on the Map screen).



3. Select **<Clear current PMap>** (if not already selected) then press **Accept**. The currently loaded prescription map is cleared from the Map screen.
4. When the message closes press **EXIT** to close the Flow Control Setup window.

Chapter 4: Pattern Guidance

Pattern Types Overview
Flying Patterns
Available Pattern Types
Flying the Available Pattern Types
Understanding Marks (Return Points)
Managing Data and Log Files

This chapter describes patterns—the pattern types and how you set them and fly them, as well as marks (return points) and data and log file management.

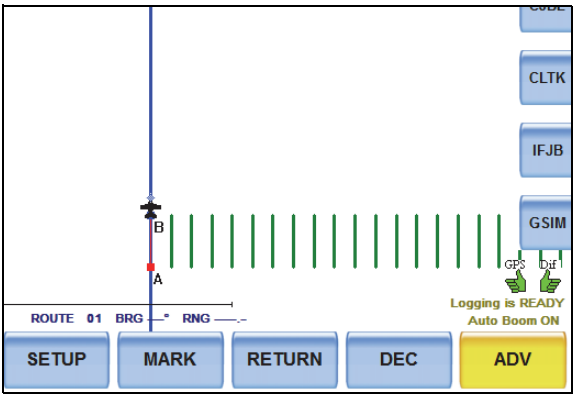
Pattern Types Overview

There are two types of patterns in IntelliTrac:

- Open pattern—where you can fly an unlimited (open) number of swaths because the pattern is independent of the size of the field
- Closed pattern—where the number of swaths you can fly is limited (closed) because you define the width of the field

Both open and closed patterns require an initial guideline on which to base the pattern's GPS coordinates. In IntelliTrac, this initial guideline is called the A|B line (a straight line defined by two points A and B). Closed patterns need an additional defined point—point C.

After entering the number of points required for a pattern—two or three—IntelliTrac places an array of swath guidelines on the screen with the A|B line in red (examples shown below).



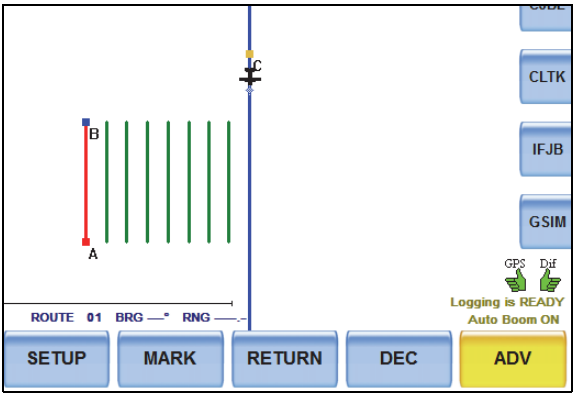
Open pattern (Back-to-Back example)

Two points in pattern (A, B)

A|B line is red

Current swath is blue

Additional swath lines are green and are unlimited in number



Closed pattern (Racetrack example)

Three points in pattern (A, B, C)

A|B line is red

Current swath is blue

Additional swath lines are green with the number of swath lines determined by the width of the pattern and the swath width

Figure 4-1: Pattern examples—open (Back-to-Back) and closed (Racetrack)

Table 4-1 describes how A|B lines are used in open and closed patterns.

Table 4-1: A|B lines in open and closed patterns

Pattern	A|B Line Use
Open	Point A is the beginning of the line Point B is the end of the line All swaths you fly will be parallel to this initial A|B line IntelliTrac automatically prompts you to set your A and B points according to the pattern you select. The A|B line may be inside or outside the field. Points A and B should be as far apart as possible to ensure the accuracy of the line. Establishing A and B points too close together may result in a small error that creates a larger divergence the longer the distance.
Closed	Point A is the beginning of the line Point B is the end of the line You define the width of your field by setting a third point—C IntelliTrac automatically prompts you to set your A, B, and when applicable, C points according to the pattern you select. You can have IntelliTrac automatically place an A|B line for you. If you load a job that has a polygon or polygons saved with it, press KEYPAD > ENTER > POLY > PATTERN and IntelliTrac will place an A|B line on the optimal side of the active polygon. You can move the A|B line to other sides as preferred. For more details on this feature see "Rotating the A|B Line Around a Polygon" on page 117.

Flying Patterns

After you set your job options (see Chapter 3, "Work Options") you are ready to begin flying with IntelliTrac.

Note: There are several tasks you can perform in more than one way. For example, to set point A (first point) in an A|B line, you can use any of the following methods:

- *Remote switch provided in your G4 kit*
- *Set A button (Quick Key) in the Moving Map area*
- *Cockpit stick where you have connected the swath advance wire set directly to the stick*

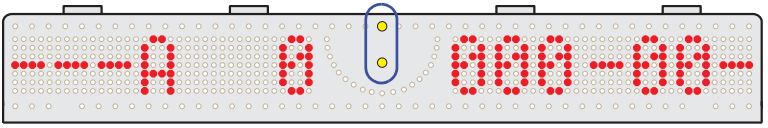
For the instructions in this manual where multiple methods are available the most common and practical method is described. For example, the following section ("Flying a Basic Pattern") describes using the physical remote swath advance button (instead of the Set A button) when setting an A|B line—this is very similar to using the same functionality integrated into a cockpit stick.

The following example uses a back-to-back (BK-BK) pattern and uses factory default settings. If you change the default setup you may see different data in your lightbar.

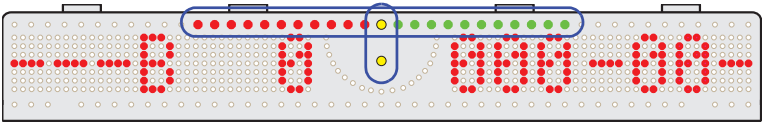
Flying a Basic Pattern

Complete the following steps to fly a basic pattern—the lightbar examples are for an open Left Back-to-Back pattern (LFT BK-BK).

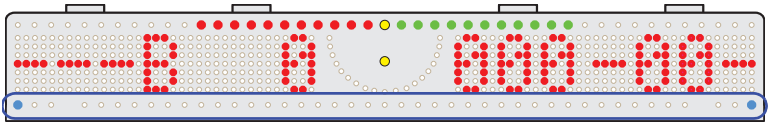
1. Begin flying. “A” appears in the left display field of the lightbar prompting you to set point A of the A|B line. The top and middle center yellow LEDs illuminate.



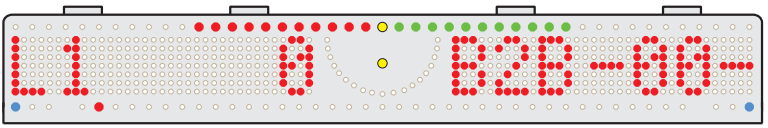
2. Fly to the beginning of your A|B line and press the remote swath advance button to set your A point. The lightbar prompts you to set your B point (left display field) by flashing the upper row of LEDs—the top and middle yellow LEDs are also flashing.



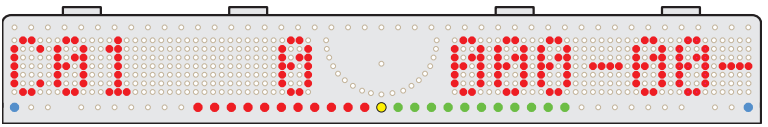
3. Turn on your spray as you enter the field. The far left and far right LEDs on the bottom row illuminate to indicate spraying is on.



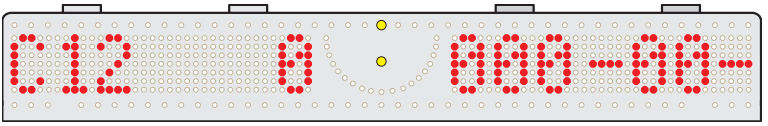
4. Press the remote swath advance to set your B point. The swath number (L1) appears in the left display field and the pattern (B2B) appears in the right center display field.



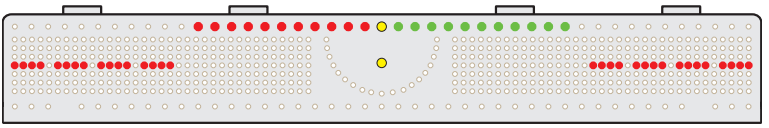
If you are flying a closed pattern, the lightbar next prompts you to set your C point. “C” appears in the left display field followed by your current swath number.



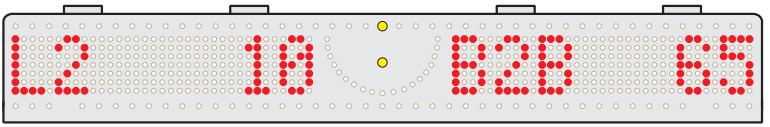
Press the remote swath advance button to set your C point.



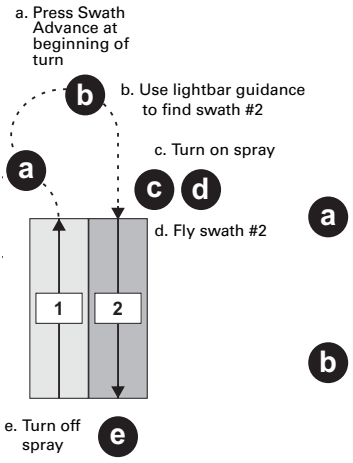
5. Turn off the spray as you leave the field. The two blue LEDs (far left and far right) are no longer illuminated.



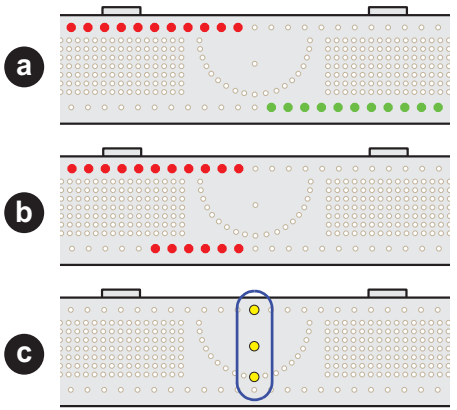
6. Press the remote swath advance button to advance to swath #2.



7. Make the turn onto your next swath using the lightbar for guidance.

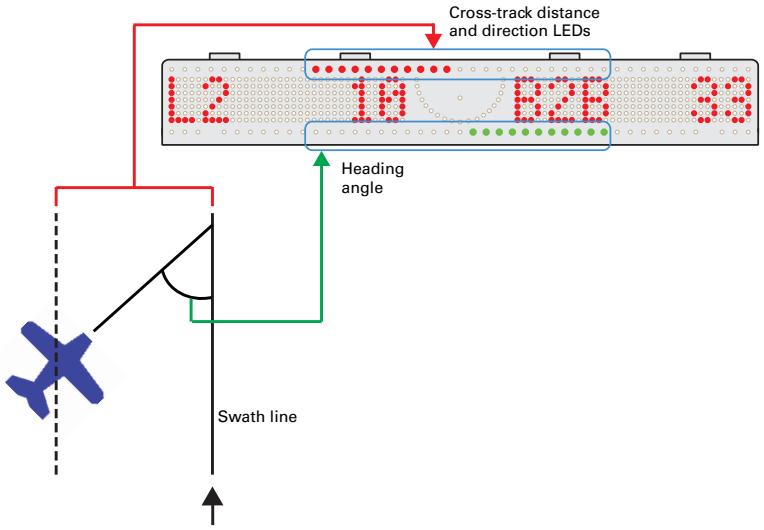


Lightbar guidance:
(a) Top row of LEDs shows cross-track distance and direction to the target swath.
(b) Bottom row of LEDs shows the heading (angle of intercept) to the target swath.
(c) Center LEDs illuminated indicate you are lined up on the swath.

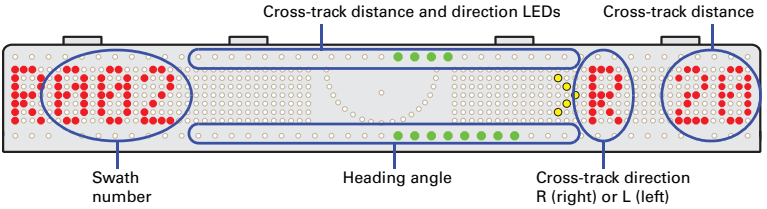


8. Turn the spray on as you enter the field.

9. Fly swath #2 using lightbar guidance. The top row of LEDs shows the distance and direction (right or left) you need to fly to get to the target swath line. The default right display tells you the exact cross-track distance.



The bottom row of LEDs shows the heading angle needed to intercept the target swath line. The default left display tells you the current swath number.

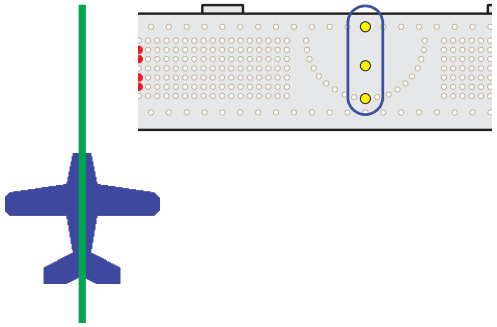


Each LED represents a certain distance. For example:

- For cross-track distance (top row of LEDs), the more you are off-track, the more LEDs are illuminated. When you are closer to your target, fewer LEDs are illuminated.
- For heading angle, the farther you are off from the required heading angle needed to intercept the target swath, the more LEDs are illuminated. When you are closer to your required heading angle, fewer LEDs are illuminated.

When the center vertical row of lightbar LEDs is illuminated, you are on the target swath.

10. Continue to fly the rest of your swaths using lightbar guidance.



Common Pattern Flying Tasks

Table 4-2 provides information on common pattern flying tasks.

Table 4-2: Common pattern flying tasks

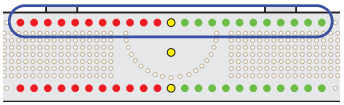
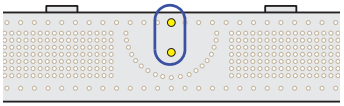
Task	How To
To change direction at any time while flying a pattern (from flying to the right of the A|B line to flying to the left of it, or vice versa):	Press **KEYPAD > LEFT RIGHT\3** IntelliTrac transfers the swath guidance grid to the other side of the A|B line.
To change your remote swath advance button to a swath decrement button To change it back to swath advance	Press **KEYPAD > SET > DEC** Press **KEYPAD > SET > ABC** See also
Reset the current pattern	Press **KEYPAD > CLEAR > PATTERN\1 > ENTER** "Waiting A" appears on the lightbar. Your current spray data remains visible in the Map screen.
Recall a saved pattern	Press **KEYPAD > SET > PATTERN\1 > n > ENTER**
Clear the aircraft swath mark display	Press **KEYPAD > CLEAR > SWATH\2**
Clear the active prescription map from the Map screen	Press **KEYPAD > INFO\0 > INFO\0** > **Prescription Map** > **Clear current PMap**

Troubleshooting

When flying a pattern, the lightbar may display a warning. Warnings include spraying a previously sprayed swath (double-spray warning), invalid or poor DGPS reception, or distance/time to polygons or waypoints.

When IntelliTrac generates a warning your active guidance display disappears from the lightbar. In its place you see flashing LEDs and/or additional error information in the left and right display screen.

Table 4-3: Troubleshooting lightbar warnings

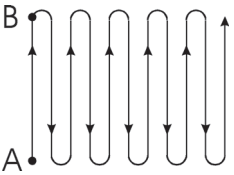
Lightbar Display	Warning Message
	Swath Double Spray Upper LED row flashes when spray on is detected on a previously sprayed swath. This will flash until the swath number is changed. (By default this is turned on.) You can turn this feature off in SETUP > SETUP > LIGHT BAR, *Double Spray Warning* field.
	Extrapolated GPS Top two center yellow LEDs blink. Reboot system and check for receiver and power status lights. Refer to your receiver owner's manual for more information on status indicators.

Available Pattern Types

IntelliTrac supports ten pattern types (both open and closed), providing the flexibility to fly any field shape. This section describes the ten patterns and how you fly them. Although IntelliTrac includes ten pattern types, you can store as many as 99 flown patterns in a job.

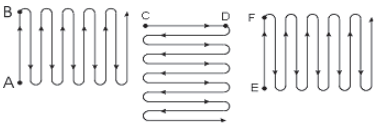
Pattern Types Summary

This section describes each of the ten available pattern types.



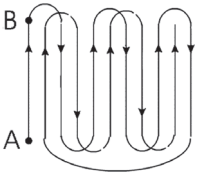
Back-to-Back (BK-BK)

Fly consecutive swaths parallel to the A|B line.



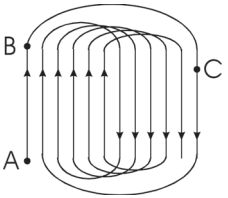
Multi Back-to-Back (MB2BK)

Fly multiple Back-to-Back patterns. Input the number of fields you want to fly (up to 9) and whether you want to full rotate (123, 123) or half rotate (123, 321). IntelliTrac automatically rotates your A|B line for each field and provides guidance accordingly.



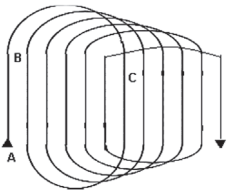
Back-to-Back Skip (BKBKS)

Fly the odd-numbered swaths first, then the even numbered swaths.



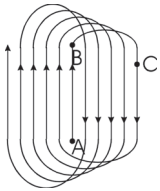
Racetrack (RCTRK)

Fly each side of a field, then alternately work from swath #2 to the middle, and from the middle toward the other end of the field. This pattern is useful for flying wide, smooth turns.



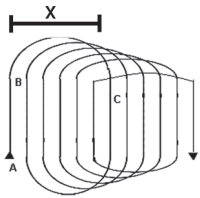
Quick Racetrack (QKRTK)

Fly a pattern similar to the Racetrack, but set your C point in the middle of the field.



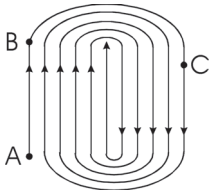
Reverse Racetrack (RVTRK)

Fly a pattern similar to the Racetrack. This is called the “Reverse” Racetrack because you are flying in one direction, but swaths are incrementing in the opposite direction. In this pattern, you set your A|B line in the center of the field. This pattern is useful for flying circular fields or other fields where the center line is clearly visible.



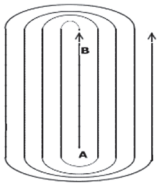
QuickTrac X

Fly a pattern similar to the Quick Racetrack. You specify the 'C' point for Quicktrac X patterns by the number of swaths or the distance from A|B to the furthermost swath in the pattern. After you have set the A and B points, fly the pattern like a Quick Racetrack: the second swath is in the middle of the field, the third is swath #2, and so forth.



Squeeze (SQUEZ)

Fly loops of decreasing size, from the outside of the field to the middle of the field. This pattern allows you to make wide turns at the beginning of a job when carrying a heavy load, and narrower turns as your load becomes lighter.



Expand (EXPND)

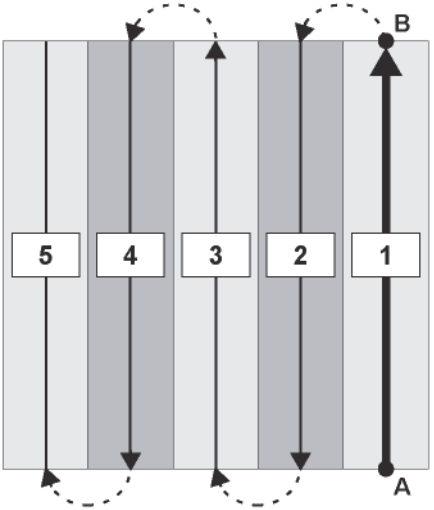
Fly successive swaths outward from the center of the field. This pattern is useful for fields with a visible center line or a long, irregular shape.

Flying the Available Pattern Types

This section reinforces the main points about each pattern and describes how to fly the patterns.

Back-to-Back Pattern (BK-BK)

In a Back-to-Back pattern you fly consecutive swaths parallel to the A|B line. You can fly this pattern either right-to-left (LFT BK-BK) or left-to-right (RGT BK-BK).



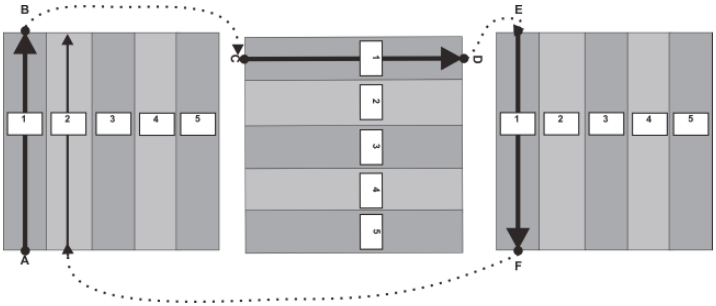
1. Set the pattern type as BACK-TO-BACK and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. Fly swaths consecutively: 1, 2, 3, and so on.

Multi Back-to-Back Pattern (MB2BK)

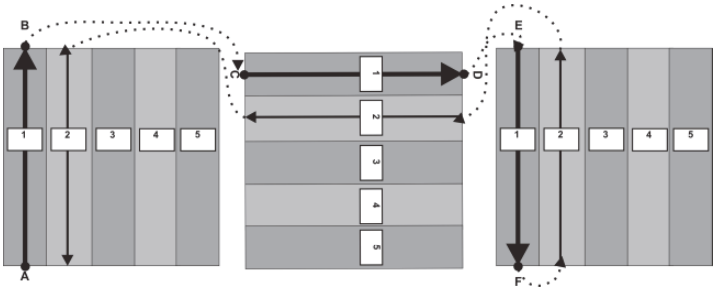
In this pattern you fly Back-to-Back patterns over a maximum of nine fields. Multi Back-to-Back patterns can be full rotate or half rotate patterns.

Note: In the two pattern examples below, the bold and the italic text highlights the difference in the swath order between full rotate and half rotate patterns. Regular text indicates swaths are flown in the same order in both patterns.

Back-to-Back full rotate pattern: Field 1-Swath 1, Field 2-Swath 1, Field 3-Swath 1; **Field 1-Swath 2**, Field 2-Swath 2, *Field 3-Swath 2*



Back-to-Back half rotate pattern: Field 1-Swath 1, Field 2-Swath 1, Field 3-Swath 1; *Field 3-Swath 2*, Field 2-Swath 2, **Field 1-Swath 2**.



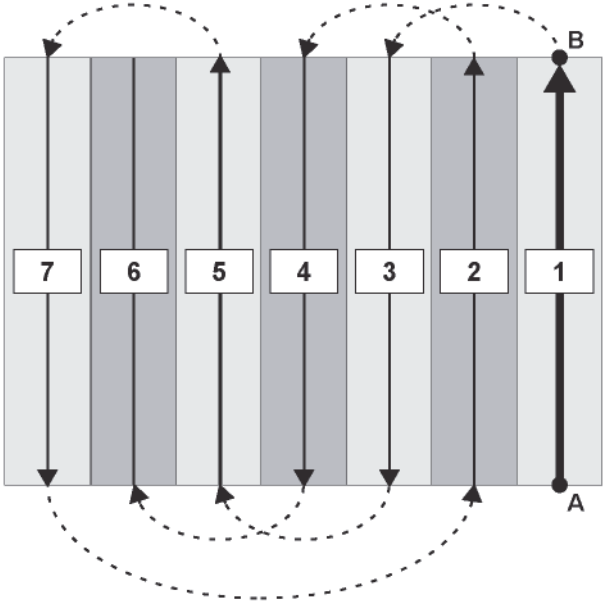
IntelliTrac automatically rotates your A|B line for each field and provides guidance accordingly.

To fly a Multi Back-to-Back pattern:

1. Set the pattern type as MULTI BACK-TO-BACK and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34). Make sure you set the rotation (full or half) and the number of fields you want to fly (total fields).
   - Full rotate means you fly the first swath of each field and then fly the second swath of each field starting again at field 1 (such as 123, 123).
   - Half rotate means you fly the first swath of each field, then fly the second swath of each field in the opposite direction beginning with field 3 (such as 123, 321).
2. Set your A|B line for each consecutive field (see “Flying a Basic Pattern” on page 52).
3. Follow the guidance prompts to complete flying your pattern.

Back-to-Back Skip Pattern (BKBKS)

In this pattern you fly the odd-numbered swaths first, then the even numbered swaths in a Back-to-Back pattern. You can fly this pattern either right-to-left (LFT BKBKS) or left-to-right (RGT BKBKS).



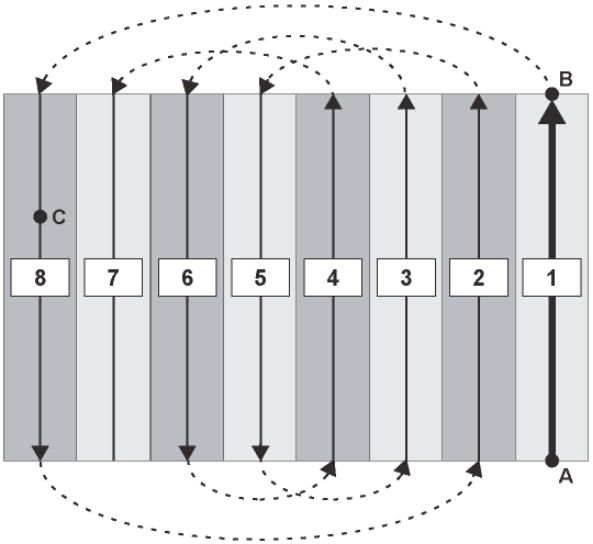
To fly a Back-to-Back Skip pattern:

1. Set the pattern type as BACK-TO-BACK SKIP and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. Fly your odd numbered swaths first.
4. To switch from odd to even numbered swaths, press **KEYPAD > ENTER**.

5. Fly your even numbered swaths.

Racetrack Pattern (RCTRK)

This pattern consists of a series of loops (or racetracks) resulting in wider, smoother turns. In a Racetrack pattern, you first fly each side of a field, then alternately work from swath #2 to the middle, and from the middle toward the other end of the field.



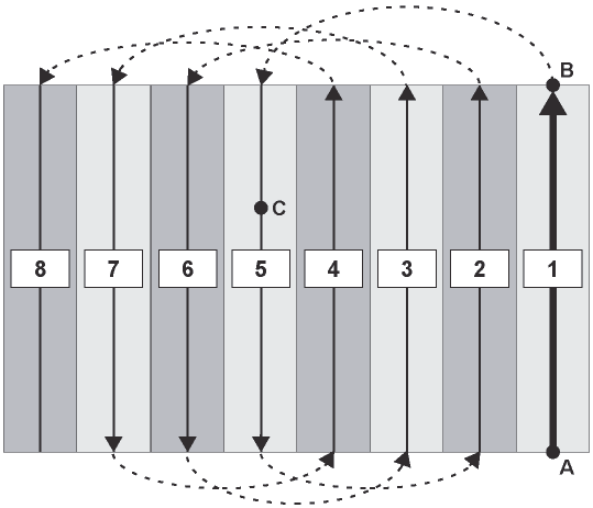
To fly a Racetrack pattern:

1. Set the pattern type as RACETRACK and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. Fly swaths in the following order: 1, 8, 2, 5, 3, 6, 4, 7.

Quick Racetrack Pattern (QKRTK)

This pattern is similar to the Racetrack pattern; however, in a Quick Racetrack pattern you set your C point in the center of the field, not at the end. This is called a "Quick" Racetrack because you do not have to fly to the end of the field to press the C point.

In the Quick Racetrack pattern you fly a constant size loop after setting the A, B, and C points. Point C is the swath on or after the field center line.



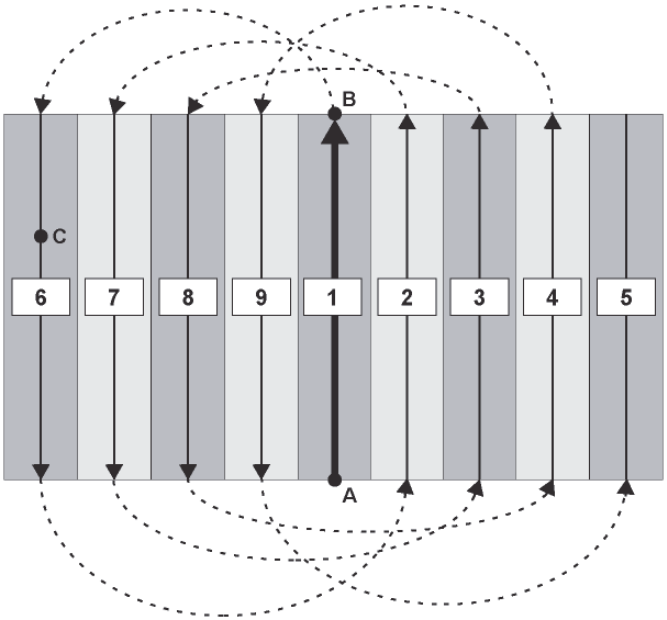
To fly a Quick Racetrack pattern:

1. Set the pattern type as QUICK_RACETRACK and set other basic job details (see "Entering Basic Job Details (Quick Start)" on page 34).
2. Set your A, B, and C points (see "Flying a Basic Pattern" on page 52).
3. Fly swaths in the following sequence: 1, 5, 2, 6, 3, 7, 4, 8.

Reverse Racetrack Pattern (RVTRK)

This pattern is similar to the Racetrack pattern. It is called a “Reverse” Racetrack because you are flying one direction, but swaths are incrementing in the opposite direction. In the example below you are flying to the left, but the swaths are incrementing to the right.

Unlike the Racetrack pattern, in Reverse Racetrack, you set your A|B line in the middle of the field. Point C is still on the edge of the field. This pattern is recommended for circular fields or other fields where the center line is clearly visible.



To fly a Reverse Racetrack pattern:

1. Set the pattern type as REVERSE_RACETRACK and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. For a 9-swath *right reverse racetrack* pattern, spray the swaths in the following sequence: 1, 6, 2, 7, 3, 8, 4, 9, 5.

QuickTrac X Pattern (QKRTX)

This pattern is similar to the Quick Racetrack pattern. You specify point C for the Quicktrac X pattern by either the number of swaths or by the distance from the A|B line to the furthermost swath in the pattern. After you set the A|B points, you fly the pattern like a Quick Racetrack. You can fly this pattern either right-to-left (LFT QKRTX) or left-to-right (RGT QKRTX).

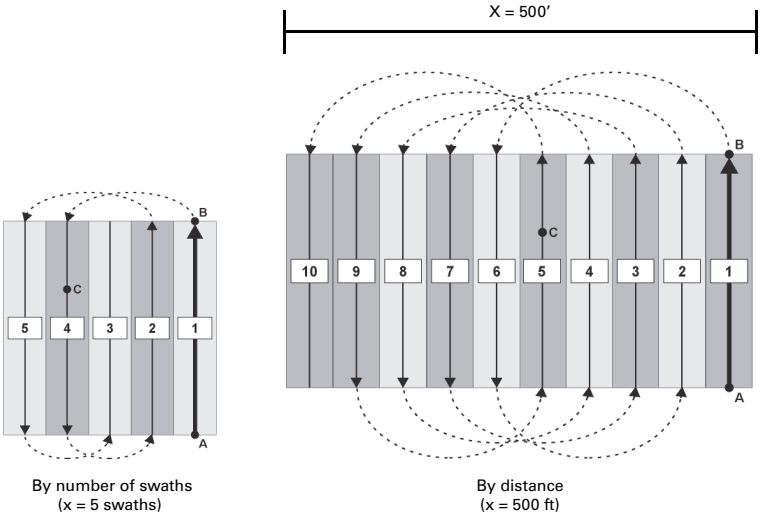


Figure 4-2: QuickTrac X patterns

To fly a Quicktrac X pattern:

1. Set the pattern type as QUICKTRACK_X and set other basic job details (see "Entering Basic Job Details (Quick Start)" on page 34).

   Make sure you enter a value for Total Swaths or Distance from A-B.

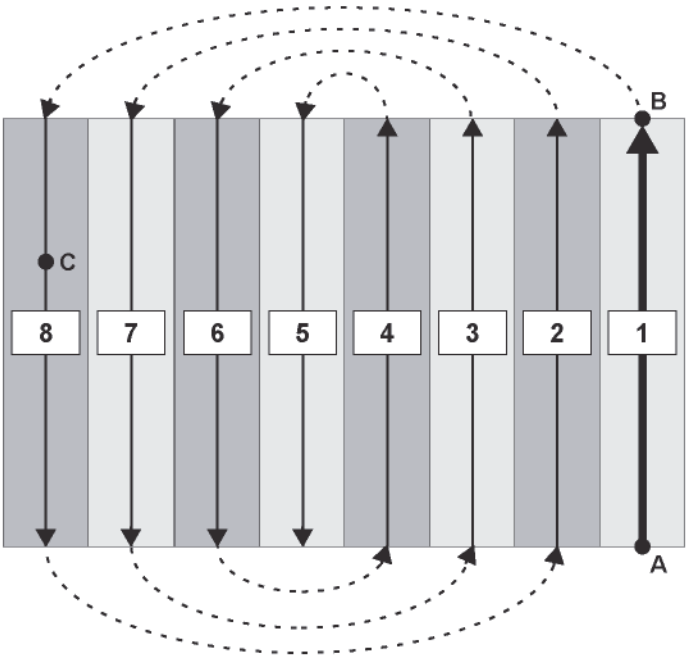
2. Set your A, B, and C points (see "Flying a Basic Pattern" on page 52).
3. Fly the pattern according to guidance cues:
   - If x = total swaths: For example, if x = 5 (total swaths), fly the swaths in the following order: 1, 4, 2, 5, 3

     Note: To repeat the quicktrac X pattern after flying the initial defined number of swaths, press the ABC button. The pattern repeats on swaths 6-10 (so 6, 9, 7, 10, 8), then 11-15 and so on.

   - If x = distance: For example, if x = 500' (Swath Width set at 50'), fly the swaths in the following order: 1, 6, 2, 7, 3, 8, 4, 9, 5, 10

Squeeze Pattern (SQUEZ)

This pattern consists of loops of decreasing size, from the outside of the field to the middle of the field. You define the outside edges of your field (the largest loop) by your A|B|C points. You make wide turns at the beginning of your spray job when your load is heavy then make narrower turns as your load becomes lighter.

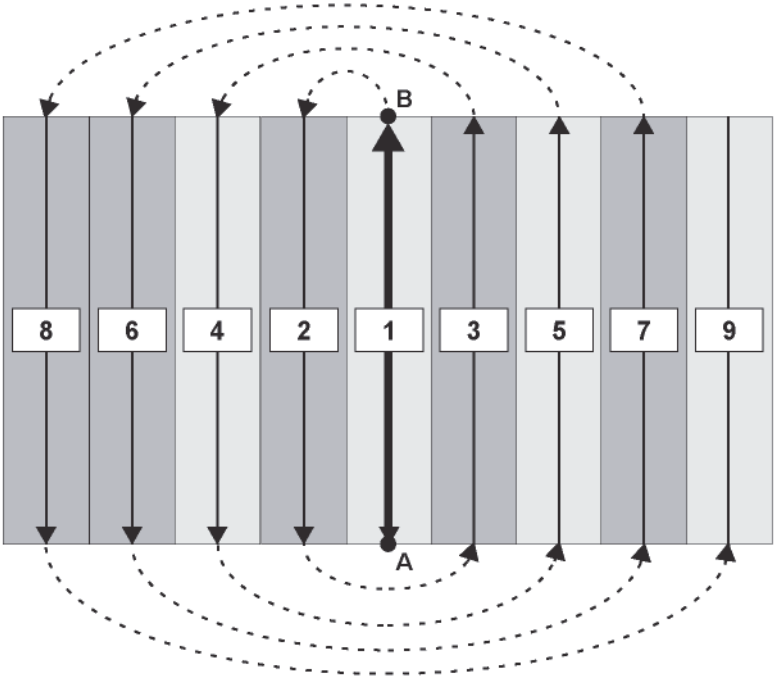


To fly a Squeeze pattern:

1. Set the pattern type as SQUEEZE and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. For an 8-swath field, spray the swaths in the following sequence:
   1, 8, 2, 7, 3, 6, 4, 5

Expand Pattern (EXPND)

This pattern begins with the A|B line in the center of the field and successive swaths increase outward. Expand patterns are useful for fields with a visible center line or with a long, irregular shape. You can fly this pattern either right-to-left (LFT EXPND) or left-to-right (RGT EXPND).



To fly an expand pattern:

1. Set the pattern type as EXPAND and set other basic job details (see “Entering Basic Job Details (Quick Start)” on page 34).
2. Set your A|B line (see “Flying a Basic Pattern” on page 52).
3. For a 9-swath *Expand Left* pattern, spray the swaths in the following sequence:

   1, 2, 3, 4, 5, 6, 7, 8, 9

Understanding Marks (Return Points)

Marks are points to which you want to return. When you create a mark, IntelliTrac saves the following current swathing information:

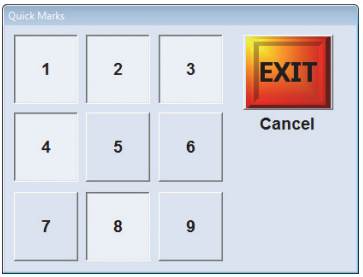
Swath number	Pattern
A|B line	Direction
Job ID	Acreage
Swath width	Spray information

Creating a Mark

You create a mark in two ways: one for marks 1 to 9, one for marks 10 to 99.

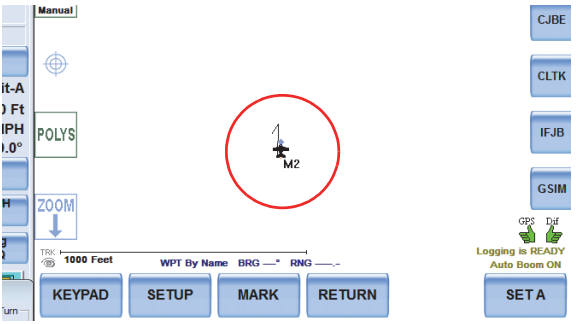
To create a mark numbered 1-9:

1. Press the **MARK** Quick Key. The Quick Marks window appears.



Mark numbers already in use are shown as depressed numbers (1, 2, 3, 4, and 8 above); however, you can reuse them to reposition a mark (to overwrite its position to the new position).

2. Press the button corresponding to the numbered mark you want to create. A message appears (at right) indicating IntelliTrac is saving that numbered mark (M2 below), the Quick Marks window closes, and the new mark appears in the Moving Map area (below).



To create a mark numbered 10-99:

- Press **KEYPAD > SAVE > MARK\4 > nn > ENTER**, where 'nn' is the mark number.

A message appears indicating IntelliTrac is saving that numbered mark and the new mark appears in the Moving Map area (for example, mark #12 appears as **M12**).

Note: IntelliTrac automatically saves your last sprayed point (last spray off point) as mark zero (M0), but this mark is overwritten each time the spray is turned off. If you want to keep a spray off point marked, manually give it a mark number (n) immediately after turning spray off. You will get M0 and Mn (almost) together and Mn will stay while M0 will become the next spray off point. To return to the last sprayed mark, press KEYPAD > RETURN\7 > INFO\0 (the lightbar provides guidance back to the mark).

Returning to a Mark

You return to a mark in two ways:, one for marks numbered 1-9, one for marks numbered 10-99.

To return to marks numbered 1-9:

- Press **KEYPAD > RETURN\7 > n** where 'n' is the mark to which you want to return

To return to marks numbered 10-99:

- Press **KEYPAD > SET > MARK\4 > nn > ENTER** where 'nn' is the mark to which you want to return

When returning to a mark the following occur (as shown in Figure 4-3).

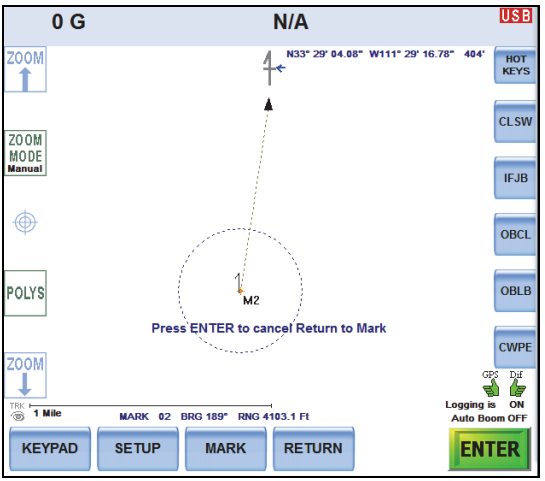
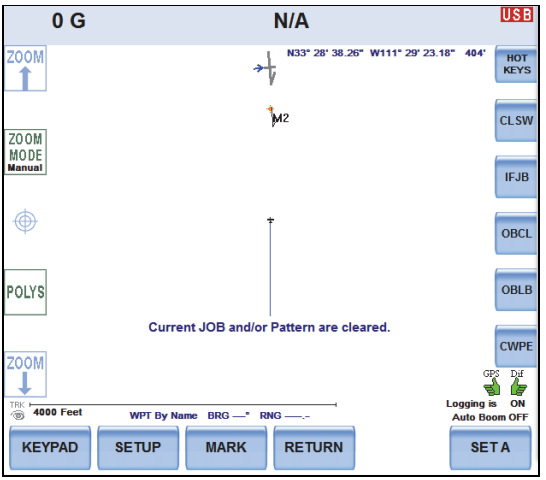


Figure 4-3: Returning to a mark

- IntelliTrac provides guidance to the mark: the mark indicator appears (M2 in Figure 4-3), a dotted line connects your current location to the mark, and a dotted automatic guidance circle appears around the mark (based on the radius value setting—see “Automatic Guidance” on page 91 for more information on radius and automatic guidance in general)
- A green ENTER button appears in the lower right of the Moving map area
- “Press ENTER to cancel Return to Mark” appears below the mark
- Bearing (heading) and range (distance) to the mark appear in the Moving Map area (above the Quick Keys) and on the lightbar

When you reach the automatic guidance circle (radius):

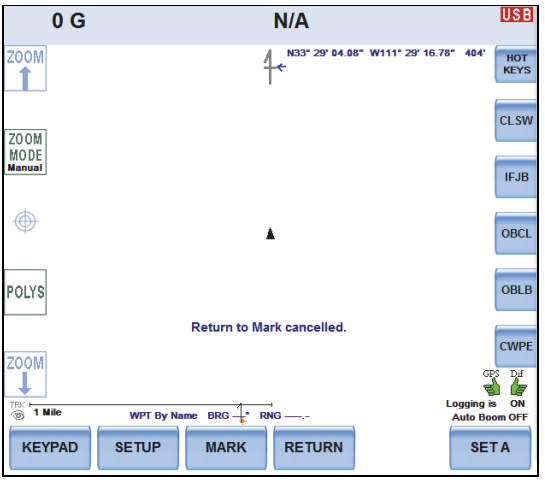
- The automatic guidance circle, the dotted line connecting your position to the mark, and the green ENTER button disappear
- “Current JOB and/or Pattern are cleared.” appears briefly



To cancel guidance to a mark:

- Press **ENTER** (lower right of Moving Map area). The Moving Map appears similar to the following—“Return to Mark cancelled.” appears briefly.

If you select the wrong mark to return to, you do not have to cancel guidance to that mark—just use either return method (depending on the mark number) for guidance to a different mark.



Clearing a Mark

To clear a mark permanently from IntelliTrac's memory:

- Press **KEYPAD > CLEAR > MARK\4 > n > ENTER** where 'n' is the mark you want to clear

Managing Data and Log Files

IntelliTrac enables you to transfer the following data types between an external storage device (USB drive) and the G4 hard drive:

Logs
Jobs
Marks (marks.dat files)
Waypoints (wypts.dat files)
Pilot settings (Itrac.ini file)

You can transfer data from the USB drive to a PC and view data in MapStar as well as transfer MapStar data back to IntelliTrac using the USB drive.

If you select the G4 hard drive as the logging read/write device (see "Starting IntelliTrac" on page 6) you must transfer data from the hard drive to the USB drive before transferring it to your PC.

About Log Data Files and Job Data Files

Log files and job files are independent of each other. A job file contains polygons and patterns. A log file contains the spray information that comes from spraying a pattern and any additional optional information that you entered, such as the pilot's name or aircraft ID. Although the job file is used as a boundary to spray in, the log file that is created from spraying is not linked to that file. This means opening one does not open the other.

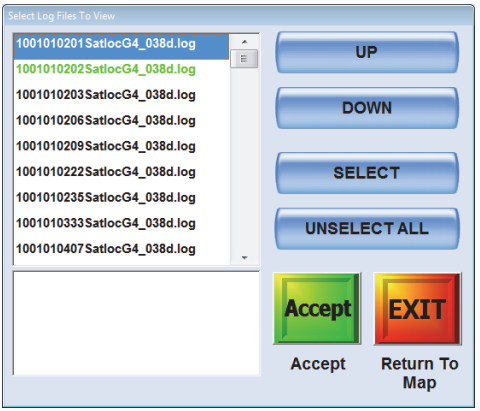
You can open any job at any time, and you can view any log at any time. If you want to view a log file and a job file, for example to make sure that you have sprayed the full field, you need to ensure that the log file is from the field that the job file represents.

Viewing Log Data

Viewing log data enables you to see a physical representation of where you sprayed, how much you sprayed, and if you missed any areas.

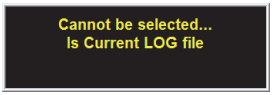
You can open and view one log, multiple logs, or all open logs.

1. Press **SETUP > SETUP > LOGGING SETUP > View Logs.** The Select Log Files To View window appears.

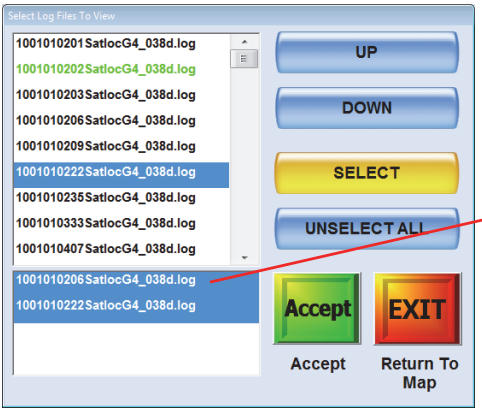


The list shows only those log files that are on the logging device you selected at startup.

The active log filename appears green in the list. You cannot view the active log—if you select the current log IntelliTrac displays the following message:

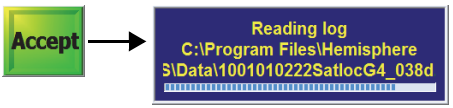


2. Select a log file in the upper list (press the file or press **UP** or **DOWN** to highlight the file) then press **SELECT**. The selected log file is added to the lower list. Repeat this step for each log file you want to view.



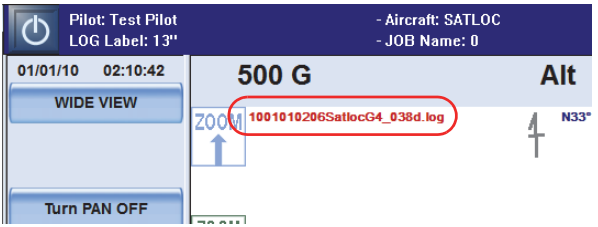
Selected files are added to the lower (view) list

3. Press **Accept**. A "Reading log" message appears then the message and the Select Log Files To View window close.



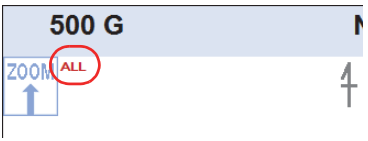
- If you selected only one log file in step 2 that log is displayed in the Moving Map area.
- If you selected multiple log files in step 2 the log with the lowest number is displayed in the Moving Map area—proceed to step 4 for how to cycle through multiple log files in the Moving Map area.

In either scenario the file name of the displayed log file appears in the upper left of the Moving Map area.



4. Press the **POLYS** button repeatedly to cycle through multiple log files on the Moving Map area.

When you reach the last log file (in order of alphabetical filename) ALL appears in place of the filename—this means all logs are visible on the Moving Map area. For example, if you have three log files in different geographical areas and you sprayed in each area, you can zoom out to see all three sprayed areas when ALL appears.



To get back to the first log press **POLYS** when ALL is displayed.

Clearing Log Data

WARNING: *Clearing logs permanently erases them from IntelliTrac's memory.*

IntelliTrac can store up to 1,000 hours of log time—depending on the storage capacity of your USB drive—before you need to clear storage space by deleting some or all of your log files.

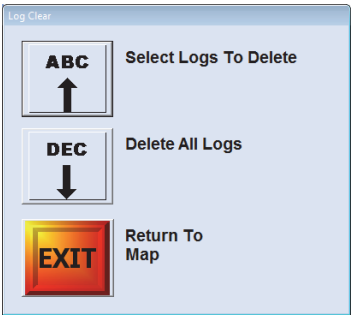
You can clear (delete) all logs or clear selected logs.

Note: Clearing logs as defined in this section means to delete the logs. This is different than removing a log from being displayed—to remove a log from the display without deleting the log press KEYPAD > CLEAR > JOB > ENTER.

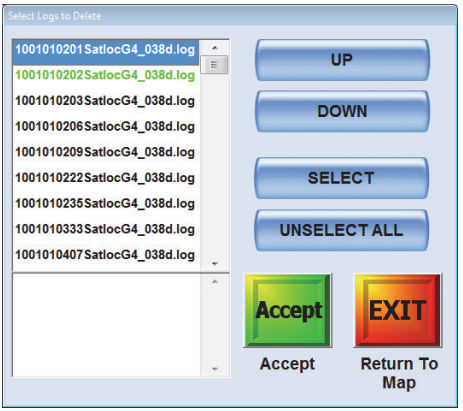
Clearing Selected Logs

To clear selected logs:

1. Press **SETUP > SETUP > LOGGING SETUP > Clear Logs**. The Log Clear window appears.

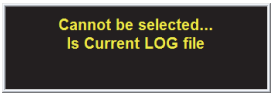


2. Press **ABC**. The Select Logs to Delete window appears.

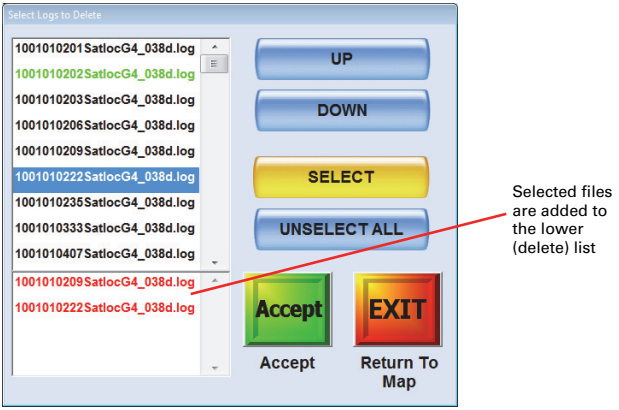


The list shows only those log files that are on the logging device you selected at startup.

The active log filename appears green in the list. You cannot delete the active log—if you select the current log IntelliTrac displays the following message:



3. Select a log file in the upper list (press the file or press **UP** or **DOWN** to highlight the file) then press **SELECT**. The selected log file is added to the lower list. Repeat this step for each log file you want to delete.

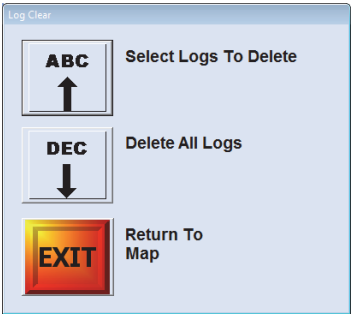


4. Press **Accept** to delete the selected logs and return to the Map screen.

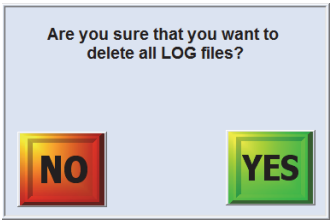
Clearing All Logs

To clear all logs:

1. Press **SETUP > SETUP > LOGGING SETUP > Clear Logs**. The Log Clear window appears.



2. Press **DEC**. A confirmation screen appears.



3. Press **YES** to delete the all logs and return to the Map screen.

Transferring Data Files

You can transfer logs, jobs, marks, waypoints, and pilot settings between the G4 hard drive and a USB drive and/or your Dropbox account (see “Transferring Files Between the Hard Drive and Your Dropbox Account” on page 78 for more information).

You use the File Transfer window (Figure 4-4) to perform file transfers.

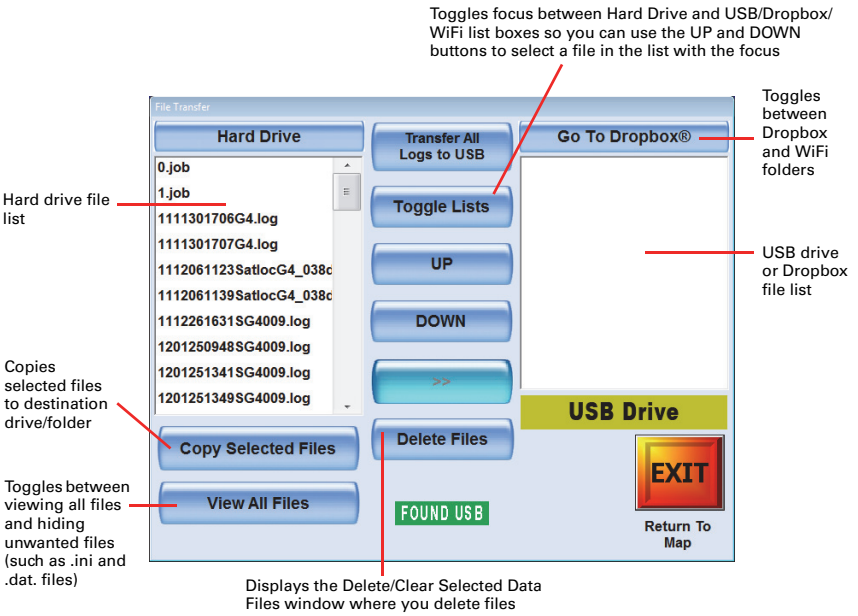


Figure 4-4: File Transfer window

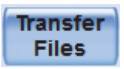
You can transfer specific files, all log files, or all files as described in the following sections.

Transferring Specific Files between the Hard Drive and a USB Drive

The following steps describe how to transfer specific files to a USB drive. For example, you may only want to transfer files from a specific day or transfer just one log file.

To transfer specific files between the G4 hard drive and a USB drive:

1. In the Data area press **Transfer Files**. The File Transfer window appears (see Figure 4-4 above).



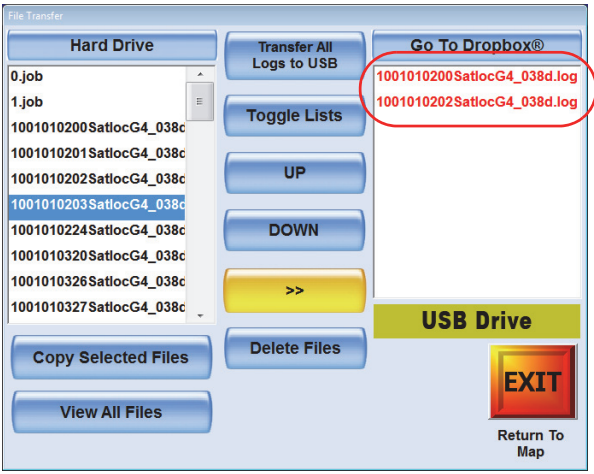
2. **To transfer files from the hard drive to the USB drive** select a file in the Hard Drive file list then press the arrow button.

   or

   To transfer files from the USB drive to the hard drive select a file in the USB Drive list then press the arrow button.

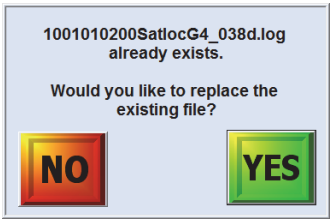
The arrows on the button point in the direction of the file transfer

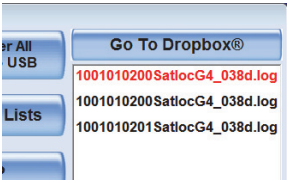
Repeat this step for each file you want to transfer. The files to be transferred appear in red in the list to which you are transferring files.



IntelliTrac checks for duplicate files on the destination drive. If a duplicate file is found the message below left appears. Press **YES** to replace the existing file; press **No** to cancel transferring that file.

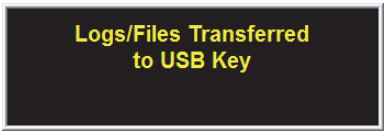
If you press YES both the current and replacement file (same filenames) appear in the right list (below right).





Replacing a log file

3. Press **Copy Selected Files**. The following message appears during the file transfer.



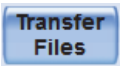
4. Press **EXIT** to close the window and return to the Map screen.

Transferring All Log Files from the Hard Drive to a USB Drive

Use the following procedure to quickly transfer all log files without having to select just the log files in the list of files.

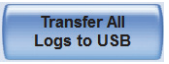
To transfer all log files to a USB drive:

1. In the Data area press **Transfer Files**. The File Transfer window appears (see Figure 4-4 on page 76).

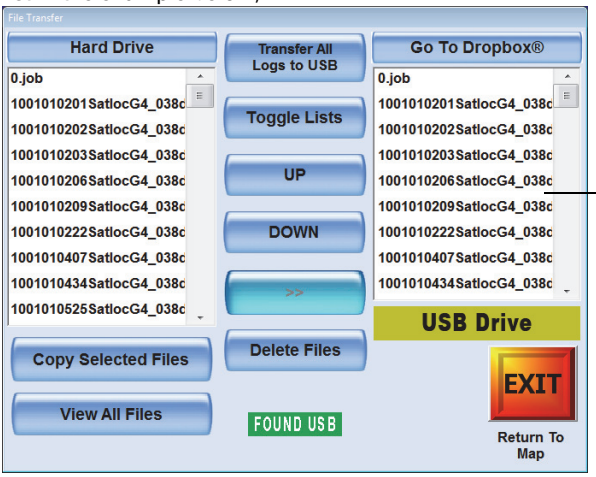


2. Press **Transfer All Logs to USB**.

   A message appears asking if you want to copy all log files to the USB drive.



3. Press **YES** to transfer the files; press **NO** to cancel transferring the files. If you press YES the transferred files appear in the destination list (USB Drive list in the example below).



4. Press **EXIT** to close the window and return to the Map screen.

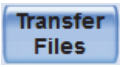
Transferring Files Between the Hard Drive and Your Dropbox Account

Dropbox is a file hosting service that provides cloud storage and file synchronization, allowing you to store files "in the cloud" (in networked external storage) and access these files from multiple devices. There is already a Dropbox account assigned to each G4 (the account is G4-specific). For more information on using Dropbox visit www.dropbox.com.

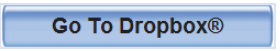
The following procedure assumes you have set up your own Dropbox account.

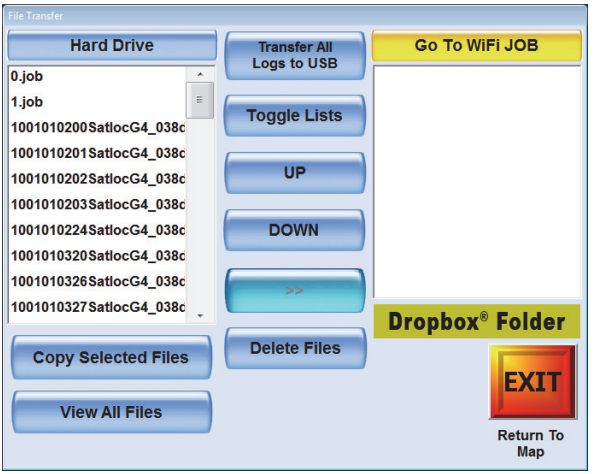
To transfer files from the hard drive to your Dropbox account:

1. In the Data area press **Transfer Files**. The File Transfer window appears (see Figure 4-4 on page 76).



2. Press **Go To Dropbox**. The bottom of the right list displays Dropbox Folder (previously displayed USB Drive) indicating your Dropbox connection is established.





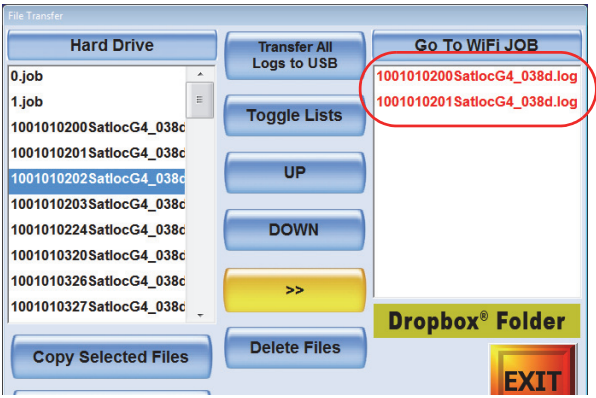
3. **To transfer files from the hard drive to your Dropbox account** select a file in the Hard Drive file list then press the arrow button.

   or

   To transfer files from your Dropbox account to the hard drive select a file in the Dropbox Folder list then press the arrow button.

The arrows on the button point in the direction of the file transfer

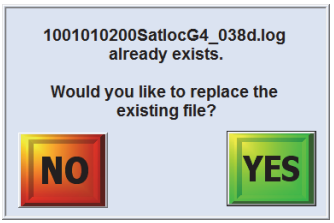
   Repeat this step for each file you want to transfer. The files to be transferred appear in red in the list to which you are transferring files.

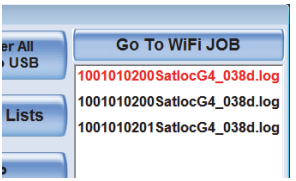


Files waiting to be transferred are red

IntelliTrac checks for duplicate files on the destination drive. If a duplicate file is found the message below left appears. Press **YES** to replace the existing file; press **No** to cancel transferring that file.

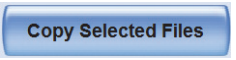
If you press YES both the current and replacement file (same filenames) appear in the right list (below right).





Replacing a log file

4. Press **Copy Selected Files**. The following message appears during the file transfer.



5. Press **EXIT** to close the window and return to the Map screen.

Transferring Logs to Your Personal Computer (PC)

If on startup you selected the G4 hard drive as the logging read/write device, you will need to transfer the data from the hard drive to the USB drive before you can transfer it to your PC.

1. If necessary, transfer the logs to your USB drive (see “Transferring Data Files” on page 76).
2. Remove the USB drive from the G4.
3. Insert the USB drive into a USB port on your PC.
4. Use MapStar to view the log data (refer to your MapStar documentation for more information).

Deleting Files

In addition to clearing marks (see “Clearing a Mark” on page 71) and clearing log files (see “Clearing Selected Logs” on page 74 and “Clearing All Logs” on page 75) you can delete all files of different file types from the G4 hard drive via one window.

The Delete/Clear Selected Data Files window enables you to delete all files of the following types:

- Job files
- WiFi job files
- Waypoint files
- GIS files
- Prescription map files
- Data files

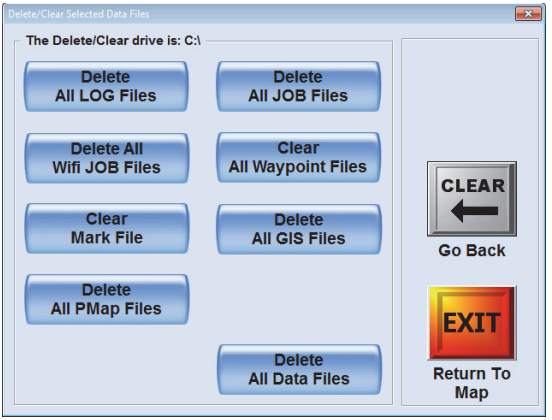
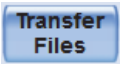


Figure 4-5: Delete/Clear Selected Data Files window

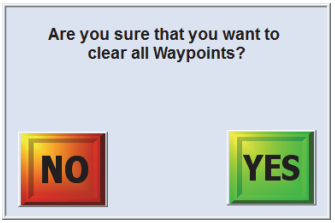
To delete/clear all files of a specific file type:

1. In the Data area press **Transfer Files**. The File Transfer window appears (see Figure 4-4 on page 76).



2. Press **Delete Files**. The Delete/Clear Selected Data Files window appears (see Figure 4-5 above).

3. For the type of files you want to delete press the appropriate button. For example, to delete all waypoint files press **Clear All Waypoint Files**. A confirmation window appears (waypoints confirmation window shown below).



4. Press **YES**. The window closes and all files are deleted.

Chapter 5: Waypoints and Routes

Overview
Working with Waypoints
Working with Routes

Overview

A waypoint represents the GPS coordinates (latitude and longitude) of a significant location. Examples of waypoints you might set are the beginning or end of your spray job or a marker along a route at which you will stop or change course.

A route consists of individual waypoints. You can add waypoints and routes during a flight or beforehand by either manually entering coordinate values or by using a mapping program. You can then navigate to the waypoints or along routes.

A radius value tells IntelliTrac to automatically provide guidance to the next waypoint when you are within the radius (for example, 1320.0 feet) of the current waypoint.

Working with Waypoints

IntelliTrac enables you to number or name each waypoint you create and associate it with a particular route. You can either set your waypoints while flying or by manually entering the coordinates into IntelliTrac.

You can perform the following tasks related to waypoints:

- Set a waypoint while flying—you set the waypoint number and Intellitrac automatically assigns the waypoint to the active route (see "Setting a Waypoint While Flying" on page 85)
- Set a waypoint by entering GPS coordinates—this applies to setting a waypoint by name or setting a waypoint by route (see "Setting a Waypoint Manually" on page 86)
  - Waypoints you set by route are by definition assigned to a specific route
  - Waypoints you set by name are freestanding—they are not assigned to a route and you cannot later assign them to a route
- Recall a waypoint—display the waypoint on screen and receive guidance to the waypoint (see "Recalling a Waypoint" on page 90)
- Edit a waypoint—change the coordinates of the waypoint
- Delete a waypoint—permanently remove the waypoint from memory

Setting a Waypoint While Flying

When you set a waypoint while flying the Moving Map area displays a waypoint saved notification (in the format "Waypoint n saved.") and a route-waypoint indicator (in the format "Route # - Waypoint #"). For example, Figure 5-1 shows the Moving Map area after setting Waypoint #3 in Route #1.

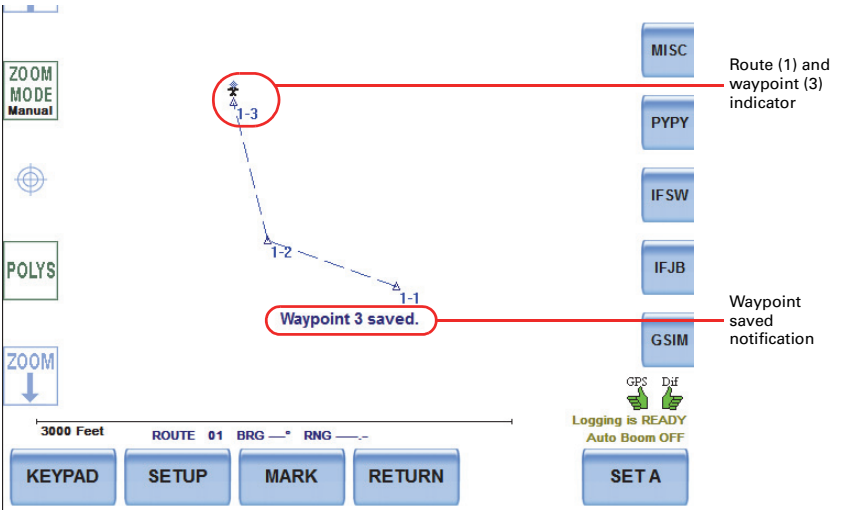


Figure 5-1: Saved waypoint and route-waypoint indicator

To set a waypoint while flying:

- Press **KEYPAD > SAVE > WPT\5 > n > ENTER**

  where 'n' is the route number

  In addition to the waypoint saved notification and a route-waypoint indicator:

  – A triangle appears (where you pressed ENTER)
  – If this is any waypoint other than the first waypoint in a route a dotted line appears between that waypoint and the previous waypoint in the route

When saving waypoints to a route the route number appears above the SETUP button ("ROUTE 01" in Figure 5-1).

Note: When you are receiving guidance to a waypoint both the route number and the waypoint number appear above the Quick Keys. See "Automatic Guidance" on page 91 for more information.

Setting a Waypoint Manually

As an alternative to entering waypoints while flying (where IntelliTrac automatically assigns the waypoint number and associates it with a route), you can enter waypoint coordinates manually using the Select Waypoints Mode window (Figure 5-2).

Figure 5-2: Select Waypoints Mode window

There are two waypoints modes (BY NAME and BY ROUTE)—meaning you can manually set a waypoint by name or by route.

- When you set a waypoint by name you are setting a freestanding waypoint—it is not associated with any route
- When you set a waypoint by route you enter an existing or new route number, enter the waypoint coordinates manually, and optionally assign a name to the waypoint

In general, if you only need to set one waypoint you would set that waypoint by name (such as 'WD1'); for multiple waypoints, set the waypoint by route (such as route 1, waypoints 1, 2, 3).

The current waypoints mode is displayed to the right of the Waypoints MODE button. Press the button to switch to the other mode. The mode determines the window that appears when you then press the Waypoints button:

- Pressing the Waypoints button in BY NAME mode displays the Waypoints By Name window, where you select, delete, or create waypoints by name.
- Pressing the Waypoints button in BY ROUTE mode displays the Waypoints By Routes window, where you create waypoints by route.

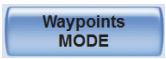
You can also set the waypoint radius circle when manually setting a waypoint—referred to as *automatic guidance*. The radius appears as a dotted circle around the waypoint to which you are currently receiving guidance. When you are within this radius distance, IntelliTrac displays guidance to the next waypoint in your route (if one exists). See "Automatic Guidance" on page 91 for more detailed information on how automatic guidance works and what IntelliTrac displays in the Moving Map area related to automatic guidance.

Setting a Waypoint Manually by Name

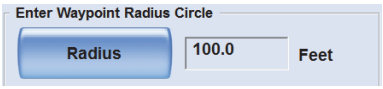
To manually set a waypoint by name:

1. Press **SETUP > SETUP > SETUP > Waypoints**. The Select Waypoints Mode window appears (see Figure 5-2 on the previous page).

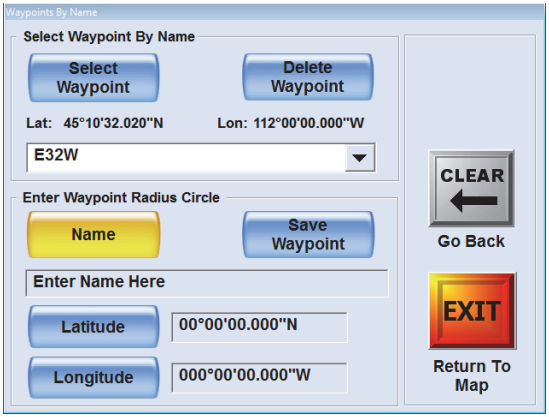
2. If necessary, press **Waypoints MODE** to set the mode to BY NAME.



3. Enter the waypoint radius:
   a. Under *Enter Waypoint Radius Circle* press **Radius**. The Enter Radius window appears.

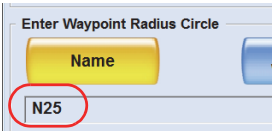


   b. Enter the distance to the next waypoint outside which you will receive guidance to that waypoint then press **Accept**. The Enter Radius window closes and the value you entered appears in the Radius field. See “Automatic Guidance” on page 91 for more information on the waypoint radius value.
4. Enter the waypoint name and coordinates:
   a. Press **Waypoints**. The Waypoints By Name window appears.



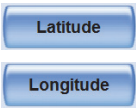
   b. Press **Name**, then in the data entry window that appears enter a waypoint name and press **Accept**.

   The data entry window closes and the name appears below the Name button.

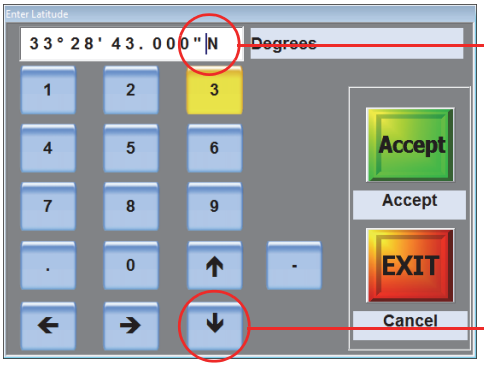


Note: When entering the latitude and longitude in the next steps, verify your coordinates are in the proper format. See “Understanding Systemwide Settings” on page 26 for more information.

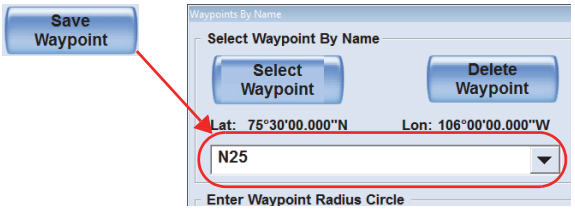
c. Enter the waypoint coordinates using the Latitude and Longitude buttons. Press **Latitude**, enter a value in the window that appears, then press **Accept**. Repeat this process for the **Longitude** button.



When entering the latitude and longitude you also enter the direction (N or S for latitude and E or W for longitude). To enter this value move the cursor to just before the current direction setting (by entering values or pressing the Right Arrow button) then press the Down Arrow button once to change the value (and once again to change it back).



5. Press **Save Waypoint**. The waypoint name appears as the currently selected item in the drop-down list.



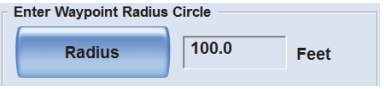
Setting a Waypoint Manually by Route

To manually set a waypoint by route:

1. Press **SETUP > SETUP > SETUP > Waypoints**. The Select Waypoints Mode window appears (see Figure 5-2 on page 86).

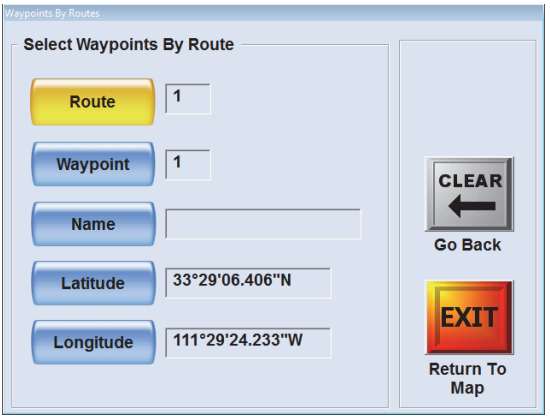
2. If necessary, press **Waypoints MODE** to set the mode to BY ROUTE.

3. Enter the waypoint radius:
   a. Under *Enter Waypoint Radius Circle* press **Radius**. The Enter Radius window appears.



   b. Enter the distance to the next waypoint outside which you will receive guidance to that waypoint then press **Accept**. The Enter Radius window closes and the value you entered appears in the Radius field. See “Automatic Guidance” on page 91 for more information on the waypoint radius value.

4. Press **Waypoints**. The Waypoints By Route window appears.



5. For each of the following fields press the corresponding button, enter a value in the data entry window, then press **Accept**.

   Route
   Waypoint
   Name
   Latitude
   Longitude

   Note: See step 4c on page 88 for information on entering the direction for latitude and longitude.

Recalling a Waypoint

To recall a waypoint that is part of a route, you must recall the route first (see "Recalling a Route" on page 94). To recall a waypoint by name, recall the waypoint name. When you recall a waypoint the Map screen shows the following (refer to Figure 5-3 for an example):

- Waypoint guidance notification (in the format "Guiding to Waypoint n.")—this message appears briefly (then disappears) if you are outside the waypoint radius value (see "Automatic Guidance" on the next page)
- Guidance line connecting your current location to the recalled waypoint
- Route/waypoint to which you are receiving guidance as well as the bearing and range to this waypoint (which also appears in the lightbar) at the bottom of Moving Map area
- Other waypoints in the route are noted (1-2 and 1-3 in Figure 5-3)
- Background color of the Data area is blue (see "Data Area" on page 10 for information on Data area background colors)

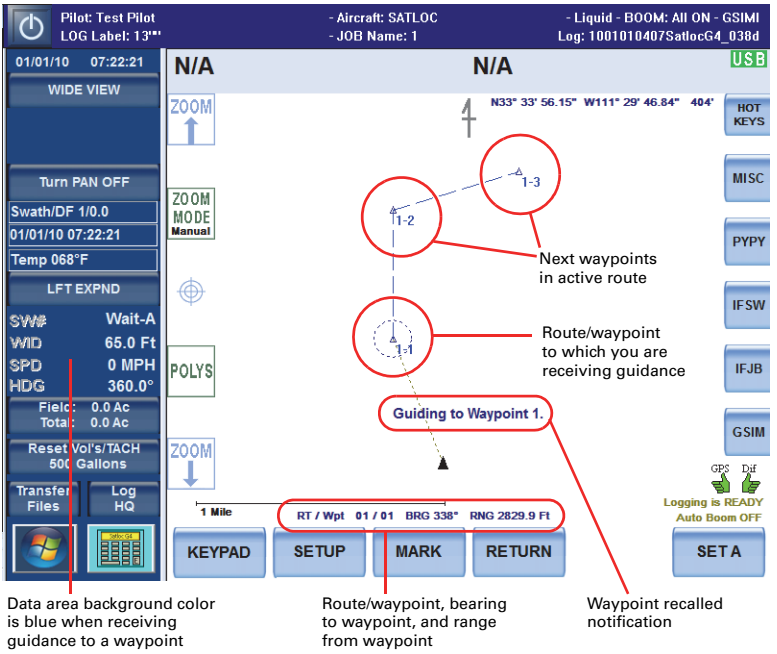


Figure 5-3: Recalled waypoint and guidance indicators

Note: You only receive guidance to a waypoint during a non-swathing mode—there is no guidance to a waypoint if you are flying a pattern.

To recall a waypoint:

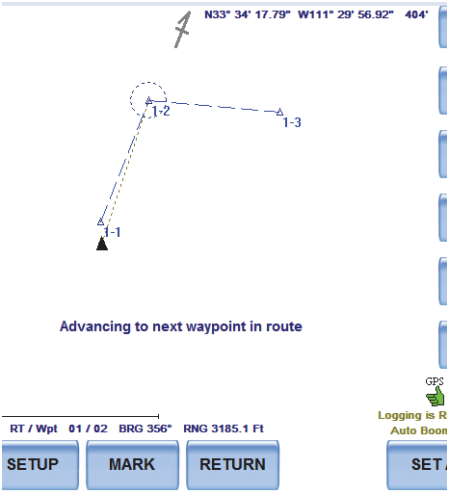
- Press **KEYPAD > SET > WPT\5 > n > ENTER**

  where 'n' is the waypoint number

Automatic Guidance

In Figure 5-3 (previous page) the dotted circle around waypoint 1 is the radius value.

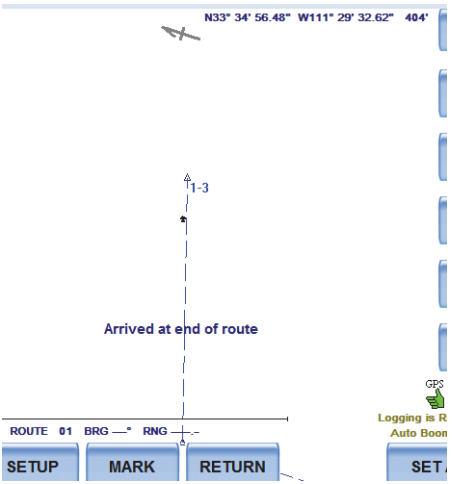
- If you recall a waypoint the dotted line appears if you are outside the radius value of that point
- Once you are within the radius value of that point "Advancing to next waypoint in route" appears for several seconds then disappears (similar to the "Guiding to Waypoint n." message that appears in Figure 5-3), the dotted radius circle appears around the next waypoint (1-2 at right), and you receive guidance (gray dotted line) to that point
- RT/Wpt (just above the SETUP button) indicates the waypoint to which you are receiving guidance



After you receive guidance to the last waypoint in the route and then are within the radius circle around this last waypoint the dotted circle disappears—there are no more waypoints in the route to which to receive guidance.

When you approach the last waypoint in a route the following occur:

- "Arrived at end of route" appears for several seconds then disappears
- RT/Wpt changes to ROUTE, and BRG and RNG have no values—since there are no more waypoints to which to receive guidance



Editing a Waypoint

You can edit any waypoint—ones you set while flying or you set manually (by name or by route).

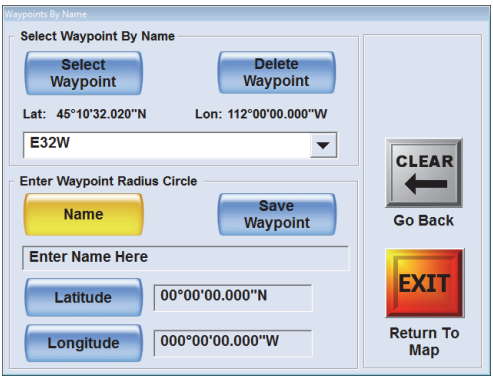
To edit a waypoint:

1. Press **SETUP > SETUP > SETUP > Waypoints**. The Select Waypoints Mode window appears (see Figure 5-2 on page 86).

2. Press **Waypoints MODE** to set the mode to:
   - BY NAME to select the waypoint by name
   - BY ROUTE to select the waypoint by route

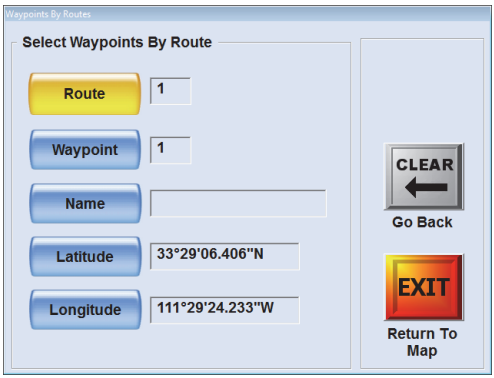
Note: When setting a waypoint by route you can enter a waypoint name as well. However, even though the waypoint has a name you must use BY ROUTE mode (not BY NAME mode) to edit the waypoint.

3. Press **Waypoints**.
   - If you set the mode to BY NAME the Waypoints By Name window appears.
   - If you set the mode to BY ROUTE the Waypoints By ROUTE window appears.



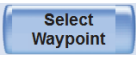
Waypoints By Name window

Waypoints By Route window



4. In the Waypoints By Name window complete the following steps to edit the waypoint by name:

   a. Press **Select Waypoint** and select the waypoint from the drop-down list. The latitude and longitude of the selected waypoint appear below the Select Waypoint and Delete Waypoint buttons.

   b. Press **Latitude** and in the Enter Latitude window enter the desired value then press **Accept**.

   c. Press **Longitude** and in the Enter Longitude window enter the desired value then press **Accept**.

   or

   In the Waypoints By Route window complete the following steps for each field:

   a. Press the appropriate button (for example, the Route button).

   b. Enter the new value in the data entry window that appears then press **Accept**.

Deleting a Waypoint

⚠WARNING: *Deleting a waypoint removes the waypoint from IntelliTrac's memory. You cannot undo this action.*

You can delete a waypoint in two ways:

- Delete by waypoint number using the Keypad—the route to which the waypoint is assigned must be active to delete the waypoint
- Delete by waypoint name using SETUP windows

To delete a waypoint by waypoint number using the Keypad:

- Press **KEYPAD > CLEAR > WPT\5 > n > ENTER**

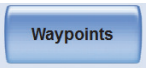
  where 'n' is the waypoint number

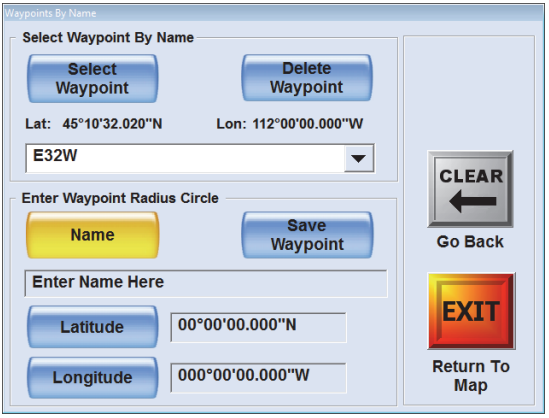
To delete a waypoint using the SETUP windows:

1. Press **SETUP > SETUP > SETUP > Waypoints**. The Select Waypoints Mode window appears (see Figure 5-2 on page 86).

2. Make sure Waypoints MODE is set to BY NAME—if Waypoints MODE is set to BY ROUTE press **Waypoints MODE** to toggle it to BY NAME.

3. Press **Waypoints**. The Waypoints By Name window appears.





4. Press **Select Waypoint,** select the waypoint you want to delete, then press **Delete Waypoint**.

Working with Routes

A route is made up of one or more waypoints. Waypoints created by route are always associated with that route and a waypoint is automatically assigned to the current route when you set a waypoint while flying.

If setting a single waypoint, use Route 1. If defining multiple routes, associate each waypoint with the appropriate route.

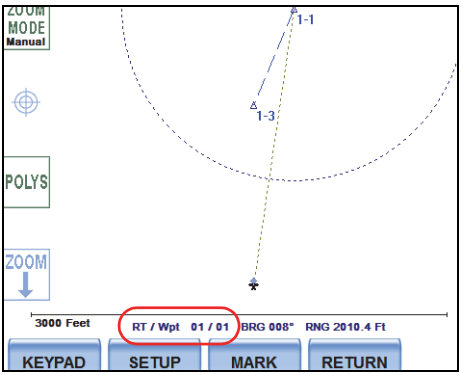
To set waypoints for a route other than Route 1:

- Assign the desired route number in the Waypoints By Route window when creating waypoints. See “Setting a Waypoint Manually by Route” on page 88 for more information.

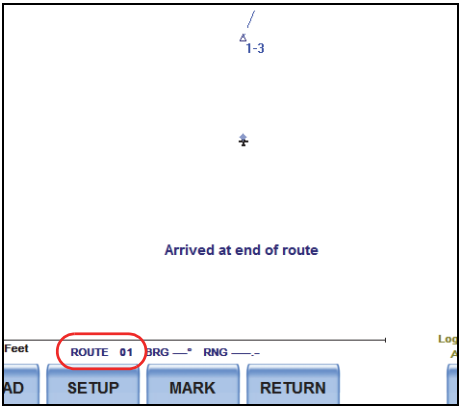
Recalling a Route

When you recall a route:

- All the waypoints on the route are also recalled
- If you are outside the waypoint radius setting (see the Enter Waypoint Radius Circle field in Figure 5-2 on page 86) IntelliTrac provides guidance to the first waypoint of the route and displays the route and waypoint numbers along the bottom of the Moving Map area as RT / Wpt n / n.

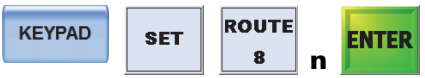


- If you are within the waypoint radius setting IntelliTrac does not provide guidance to the first waypoint of the route (since you are already near the route) and displays only the route number along the bottom of the Moving Map area as ROUTE n.



To recall a route:

- Press **KEYPAD > SET > ROUTE\8 > n > ENTER**



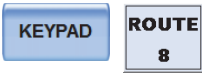
where 'n' is the route number

IntelliTrac displays the route and waypoint numbers along the bottom of the Moving Map area.

If you have multiple routes, you can use the Keypad to cycle through all active routes.

To view (cycle through) all active routes:

- Press **KEYPAD > ROUTE\8** to view the next active route, then press ROUTE\8 repeatedly to cycle through the remaining active routes.



Each press cycles through the routes you have defined—the route number and waypoint number or just the route name is displayed just above the SETUP button in the Moving Map area.

Example: *You have two routes: Route 01 (with Waypoints 01, 02, 03) and Route 02 (with Waypoints 01, 02). Route 01 is active. If you recall Route 02 (KEYPAD > SET > ROUTE\8 2 > ENTER), RT / Wpt 02 / 01 appears above the SETUP button (if you are outside the waypoint radius area for waypoint 01 in this route). With the Keypad still visible, if you then press ROUTE\8 again RT / Wpt 01 /01 appears above the SETUP button and IntelliTrac provides guidance to Waypoint 1 in Route 1 (if you are outside the radius area for waypoint 01 in this route).*

Chapter 6: Jobs and Polygons

Overview
Working with Jobs
Working with Polygons

Overview

A job enables you to save pattern information and multiple polygons.

A polygon is a shape you create by setting the points of the polygon. You can create a polygon of any field or spray area and save the polygon. Like a waypoint, you can add a polygon during flight or beforehand by either manually entering coordinate values or using a mapping program.

A mission, created in MapStar and imported into IntelliTrac, is a useful feature, especially for night flying. You can pre-establish a mission (including the flight path and A|B line) by flying the mission or by entering the coordinates. The mission then provides guidance cues based on the pre-established path.

In conjunction with MapStar, IntelliTrac supports common GIS file formats for import/export. GIS files can include new polygons or other graphics and you can convert an existing job to GIS file format for use in third-party software packages.

Working with Jobs

A job can include up to 99 patterns (type/direction; swath width; A, B, and C points; offset; and field width) and 99 polygons. You can save a job, recall a job, clear a job, or delete a single job or all jobs.

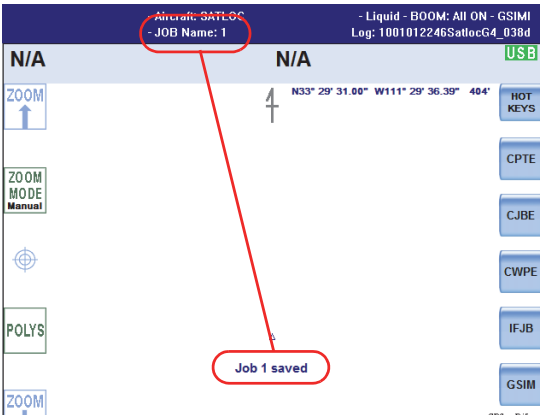
Saving a Job

By default, any job you fly in IntelliTrac is saved as "JOB 00" or the *active* job. JOB 00 is overwritten by the next job you fly unless you save that next job with a new job number between 1 and 999.

To save a job:

- Press **KEYPAD > SAVE > JOB\9 > n > ENTER** (where 'n' is the job number)

"Job n saved" appears briefly in the Moving Map area and the job number appears in the Header area next to "JOB Name:"



Recalling a Job

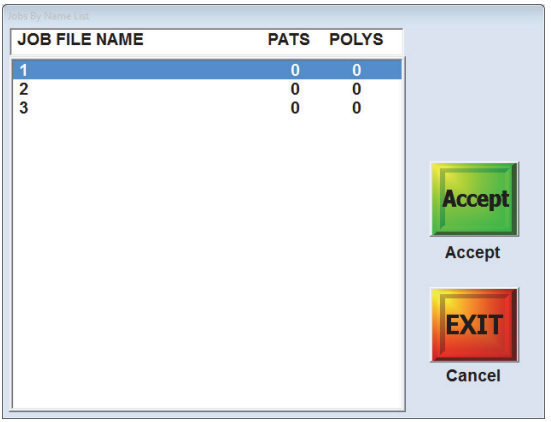
You can recall any job you have previously saved. Recalling a job automatically clears (closes) the current job (if one is active).

To recall a job by job number:

- Press **KEYPAD > SET > JOB\9 > n > ENTER** (where 'n' is the job number)

To recall a job from a list of jobs:

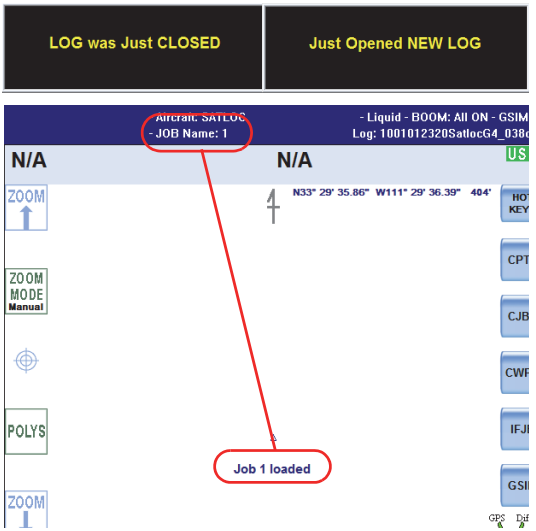
1. Press **KEYPAD > SET > JOB\9 > ENTER**. The Jobs By Name List window appears.



2. Press to select the job you want to recall then press **Accept**.

In both procedures above, the following occur after you press ENTER or Accept:

- A "LOG was Just CLOSED" message appears briefly after IntelliTrac closes the current log
- A "Just Opened NEW LOG" message appears briefly
- "Job n loaded" appears briefly in the Moving Map area and the job number appears in the Header area next to "JOB Name:"



Clearing a Job

Clearing a job closes the job and removes it from the Map screen—it does not delete the job.

To clear a job:

- Press **KEYPAD > CLEAR > JOB\9 > ENTER**

"Current JOB and/or Pattern are cleared." appears briefly in the Moving Map area and <No JOB Name> appears in the Header area.

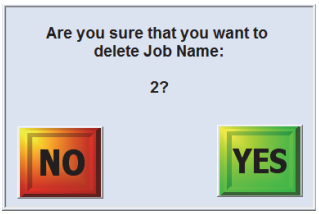
Deleting Jobs

Caution: *Once you delete a job it is permanently removed from memory; you cannot recall a deleted job.*

You can delete a single job (using the Keypad or a Hot Key) or delete all jobs. See "Using Hot Keys" on page 23 and Appendix B, "Hot Key Descriptions" for more information on Hot Keys.

To delete a single job using the Keypad:

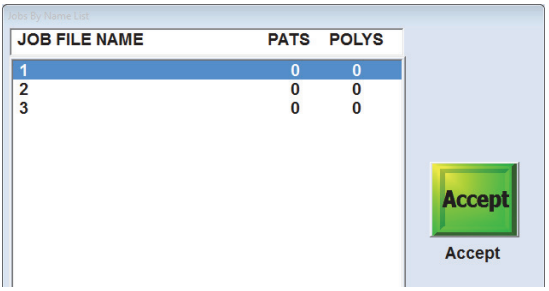
1. Press **KEYPAD > CLEAR > JOB\9 > n > ENTER** (where 'n' is the job number). A confirmation message similar to the following appears.



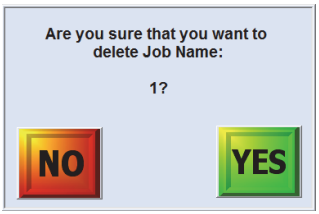
2. Press **YES**.

To delete a single job using a Hot Key:

1. Make sure one of your Hot Keys is set to Clear\Job\Clear (CJCL) then press that Hot Key. The Job By Name List window appears (top of window below).



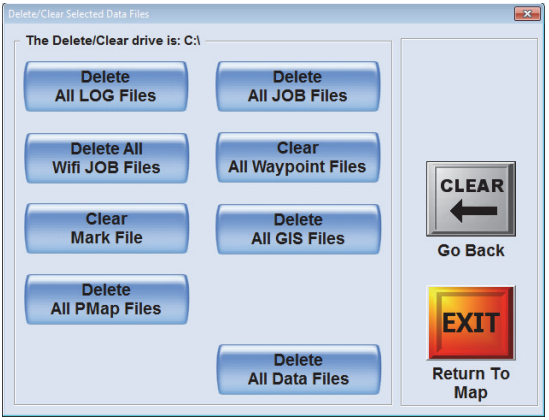
2. Press the job you want to delete then press **Accept**. A confirmation message similar to the following appears.



3. Press **YES**.

To delete all jobs:

1. Press **SETUP > SETUP > SETUP > Delete Files**. The Delete/Clear Selected Data Files window appears.



2. Press **Delete All JOB Files**. A confirmation message appears.

3. Press **YES**.

Working with Polygons

A polygon is the shape of a field (or other area, such as a forest plot) that you define. In IntelliTrac you can create two types of polygons (inclusion, exclusion) and import one type (open):

- Inclusion polygon (enclosed area you spray)—identified by its grid pattern
- Exclusion polygon (enclosed area you do not spray)—identified by no grid pattern (empty)
- Open polygon (not actually a closed area, but a multi-point line created in MapStar and imported into IntelliTrac)

Inclusion and exclusion polygons visually show you the borders of your spray/no-spray areas in the Moving Map area (Figure 6-1).

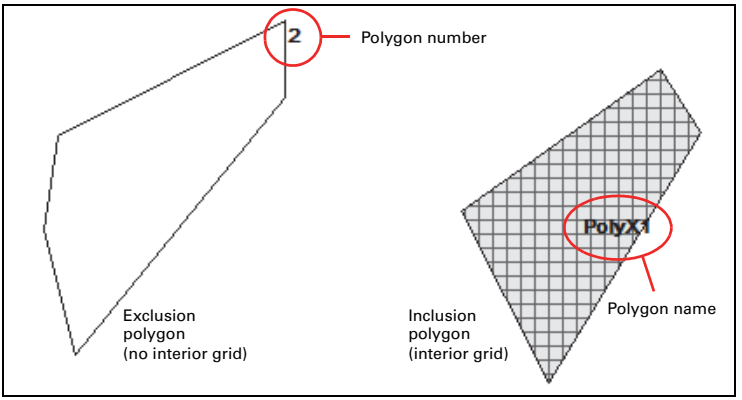


Figure 6-1: Inclusion and exclusion polygons

Table 6-1 provides more detailed polygon information.

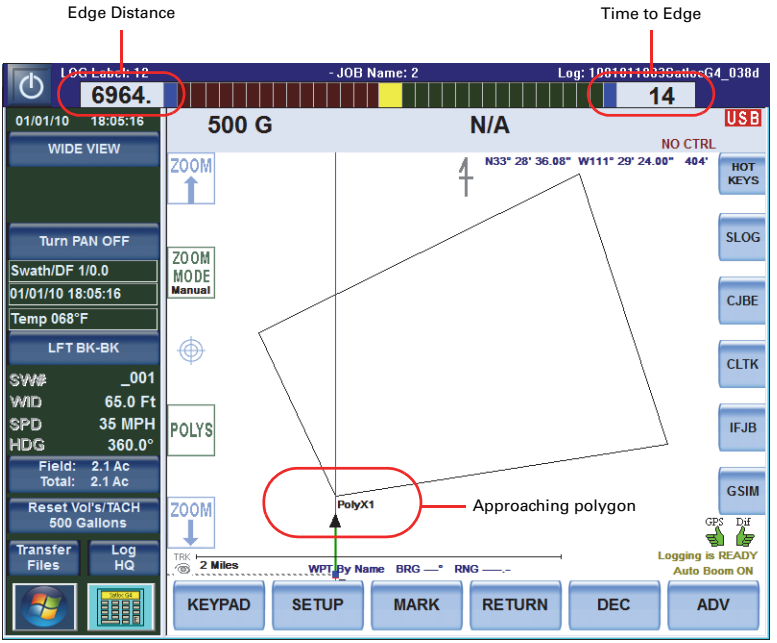
Table 6-1: Types of polygons

Type	Description
Inclusion	IntelliTrac saves any polygon with three or more points as an inclusion polygon. Inclusion polygons define spray areas and are shown with an interior grid pattern in the Moving Map area. IntelliTrac sums the areas of multiple inclusion polygons in a job. You can select Total Polygon Area as an onscreen or lightbar display option (see Appendix A, “Lightbar and Screen Display Options”).
Exclusion	You convert an inclusion polygon to an exclusion polygon by changing the polygon’s type (press **SETUP > SETUP > SETUP > Polygons > Type** and select a type). Exclusion polygons have no interior pattern. Exclusion polygon areas wholly or partially within an inclusion polygon subtract from the total polygon area (see “Calculating Total Polygon Area” on page 110).
Open	Open polygons are multi-point polylines. You create them in MapStar and then transfer them to IntelliTrac. Use them, for example, to mark roads or other similar ground features. Multi-point open polylines created in MapStar become open polygons in IntelliTrac.

Using Polygons

In addition to using polygons to define the shape of your spray/no spray area(s) you can have IntelliTrac automatically apply an A|B line to a polygon. See “Managing A|B Lines with Polygons” on page 114.

While flying a pattern you can use the Edge Distance and Time to Edge lightbar display options to warn you when you are approaching or leaving a polygon so you know when to manually turn your spray on or off.



If you are using automatic spray on/off (or off/on) functionality, IntelliTrac turns spraying on as you enter an inclusion polygon and turn it off when you leave it. If there is an exclusion polygon (or part of one) within the inclusion polygon, IntelliTrac turns spraying off as you enter the exclusion polygon and back on as you leave it.

Setting Polygon Points

You can set a polygon’s points in three ways:

- As you fly
- By entering the polygon’s GPS coordinates manually
- By importing a shapefile (GIS file) from MapStar (or other third-party mapping software)

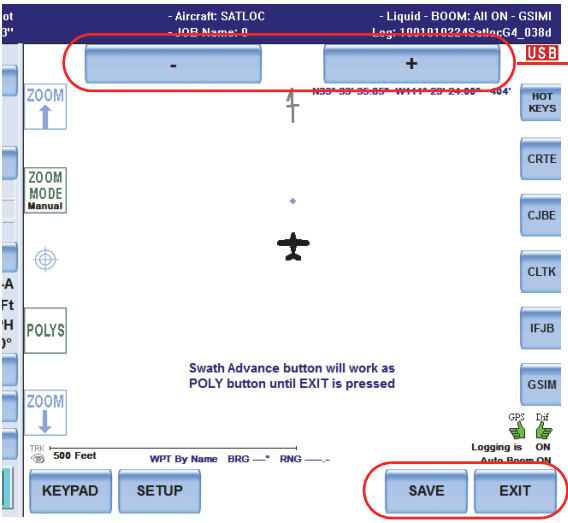
Setting Polygon Points as You Fly

When setting polygon points while flying, on entry of the third point IntelliTrac creates a triangle onscreen by joining the third point to the first point and displays the enclosed area. As you add points IntelliTrac joins the last point to the start point creating, progressively, a quadrilateral, a pentagon, a hexagon, and so on depending on the number of points you set. The enclosed area is updated with each added point.

To set polygon points as you fly:

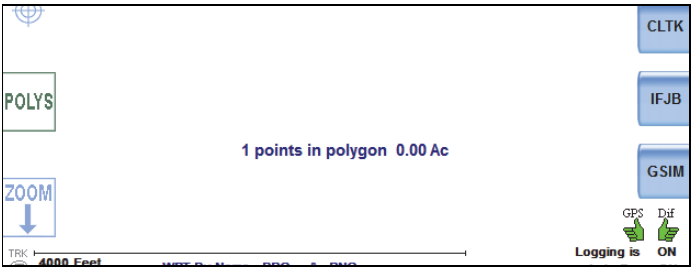
1. Press **KEYPAD > POLY > POLY**. The Moving Map area displays the message "Swath Advance button will work as POLY button until you press EXIT".

In the Moving Map area the - (minus) and + (plus) buttons appear at the top and the SAVE and EXIT Quick Keys appear at the lower right.

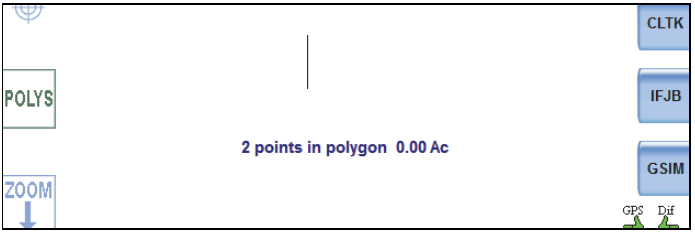


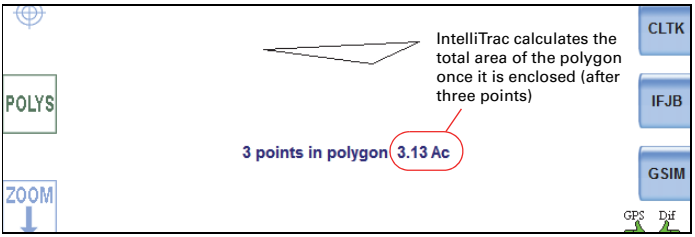
2. You can enter polygon points while flying by:
   - Using the remote swath advance switch
   - Pressing the + button (the minus button removes the last polygon point you entered)
   - Pressing KEYPAD > ABC (which acts as the swath advance button during this operation)

   When you enter your first polygon point the message below appears in the Moving Map area.



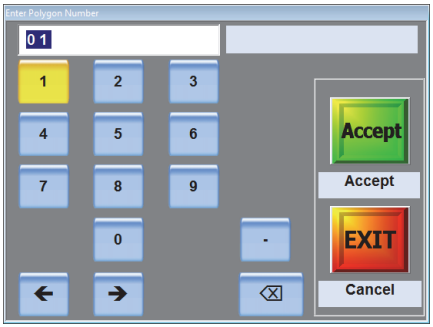
Each time you enter another point in the polygon IntelliTrac displays a message stating that point was added and the polygon begins to take shape (two points create a straight line, three points create a triangle, and so forth).





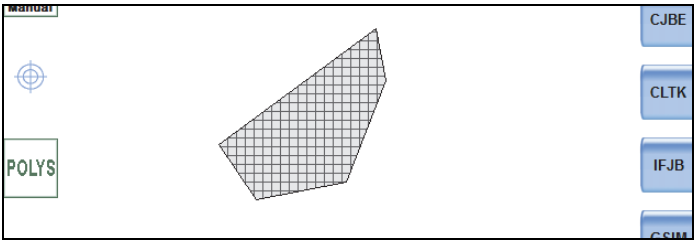
3. After you enter the last polygon point:

   a. Press **SAVE**. The Enter Polygon Number window appears.



   b. Enter a polygon number and press **Accept**.

The polygon is completed and appears in the Moving Map area as an inclusion polygon (default).



4. (Optional) To save the new polygon to a job press **KEYPAD > SAVE > JOB > n > ENTER** (where 'n' is the job to which you want to save the polygon). See "Working with Jobs" on page 98 for more information on saving jobs.

5. (Optional) You can also assign a name to the polygon, convert the polygon to an exclusion or open polygon, or change the latitude and longitude of each polygon point (steps a-d below provide a brief overview of these options—see "Manually Entering GPS Coordinates of a Polygon" on page 107 for detailed information on these steps).

   a. Press **SETUP > SETUP > SETUP > Polygons**. The Create & Modify Polygons window appears (see Figure 6-2 on page 107).

   b. Press **Name**, and in the data entry window that appears enter a polygon name and press **Accept**. The default name is the polygon number.

   c. Press **Type** and select the desired type from the drop-down list.

   d. For Latitude and Longitude, press the appropriate button and in the data window that appears enter a new value and press **Accept**. Repeat this step to enter a latitude and longitude for each polygon point (press the **+** or **-** buttons to cycle through the points).

Note: If an exclusion polygon is wholly or partially inside an inclusion polygon, the area of the exclusion polygon inside the inclusion polygon is subtracted from the total polygon area. See "Calculating Total Polygon Area" on page 110.

Tip! *To see the total cumulative area of your inclusion polygons, set your left or right large format display, or one of your field (fields 1-3) displays, to* ***Total Polygon Area*** *through SETUP > SETUP > SCREEN > DISPLAYS. The total polygon area is the sum of the inclusion polygon areas less the area of any exclusion polygons wholly or partially inside an inclusion polygon (see "Calculating Total Polygon Area" on page 110).*

Manually Entering GPS Coordinates of a Polygon

To manually enter the GPS coordinates of the polygon:

1. Press **SETUP > SETUP > SETUP > Polygons**. The Create & Modify Polygons window appears.

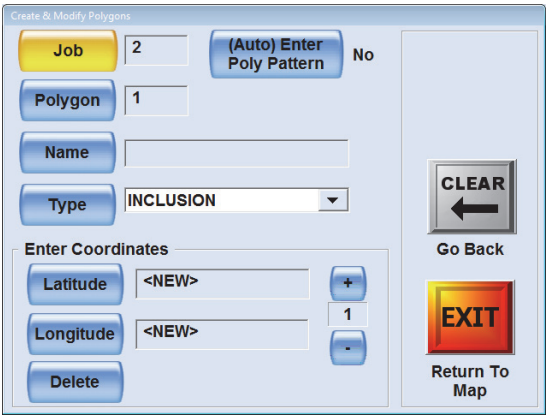
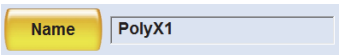


Figure 6-2: Create & Modify Polygons window

2. Select the job and polygon number as required. The default job is the currently active job (the job loaded on the Map screen). The default polygon number is 1.
3. *Enter the polygon name:* Press **Name**, enter a value in the data entry window that appears, then press **Accept**. The name appears in the Name field (PolyX1 in example at right).



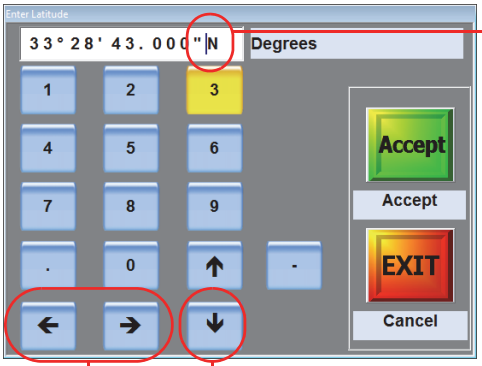
4. *Select the polygon type:* Press **Type** and select INCLUSION, EXCLUSION, or OPEN from the drop-down list.

   See “Working with Polygons” on page 102 for information on polygon types.

5. Set the latitude and longitude for each polygon point:
   a. Press **Latitude**. In the Enter Latitude window enter a value and press **Accept**.

      If you need to change the direction for latitude (N or S) press the right arrow button to move the cursor to just before the direction then press the down arrow to change the setting. To change the direction back

repeat this step—do not press up arrow to reverse the direction as the up arrow selects previous characters in the latitude.



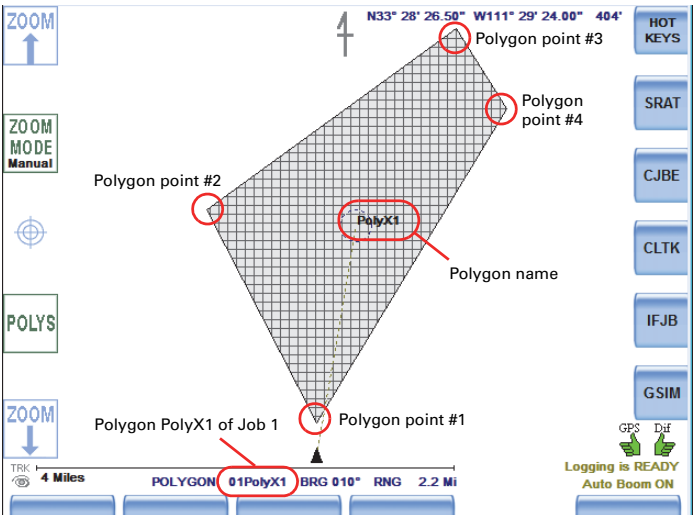
b. Press **Longitude**. In the Enter Longitude window enter a value and press **Accept**. See the example above to change the direction.

c. For each additional point in the polygon, press the "plus sign" to move to the next sequential polygon point and repeat steps a and b.

6. When finished entering all polygon information press **EXIT** to close the Create & Modify Polygons window and return to the Map screen.

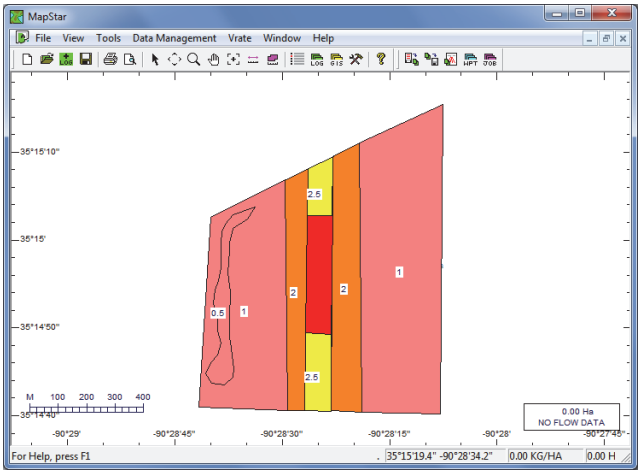
The example below shows a polygon (PolyX1) created with this procedure and the following polygon points:

Point 1: 33°28'43.000"N, 111°29'24.000"W
Point 2: 33°30'30.000"N, 111°30'30.000"W
Point 3: 33°32'00.000"N, 111°28'00.000"W
Point 4: 33°31'20.000"N, 111°27'30.000"W



Importing Coordinates from a GIS File

You can import GIS files, such as a shapefile, from MapStar or another third-party application. Figure 6-3 shows a GIS file in MapStar and the same GIS file imported into IntelliTrac.



GIS file in MapStar

Same GIS file imported into IntelliTrac

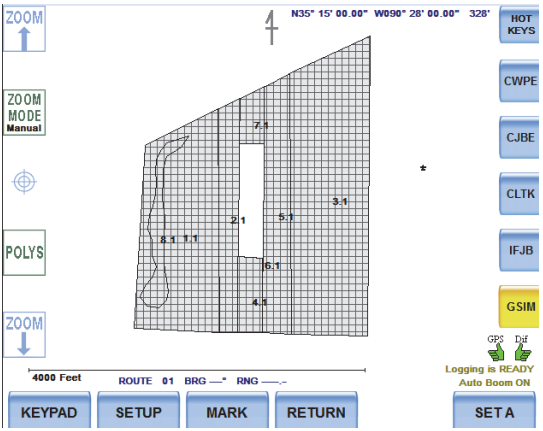


Figure 6-3: GIS file in MapStar and imported into IntelliTrac

To import a GIS file:

1. Insert a USB drive into the PC on which the GIS file resides.
2. Using your preferred application save your GIS file to the USB drive with a "**n.job**" extension (where n = Job number).
3. Remove the USB drive from the PC and insert it into your G4.
4. Transfer the GIS file from the USB drive to the G4 hard drive (see "Transferring Specific Files between the Hard Drive and a USB Drive" on page 76).

5. Press **KEYPAD > SET > JOB\9 > n > ENTER** (where 'n' is the job number you saved in step 2). IntelliTrac opens the plot containing the GIS file.

Tip! *If using MapStar, you can edit the shapefile (GIS file) to reduce the number of polygon points in a polygon (a polygon can only have up to 250 points) or to break the GIS file into separate jobs. For example, if contracting multiple pilots, you may want to break a region into quadrants. See your MapStar documentation for information on editing GIS files.*

Calculating Total Polygon Area

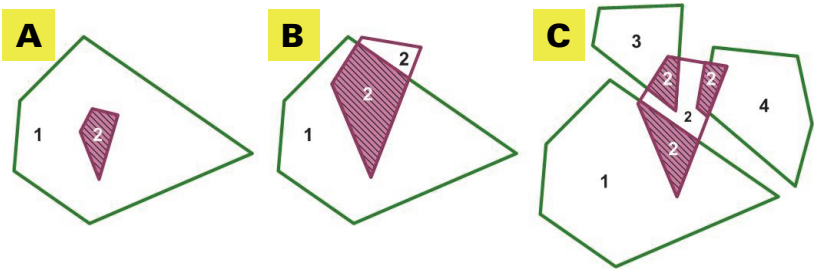
The total polygon area is the sum of the areas of all the inclusion polygons in a job less the area of any part of exclusion polygons within the inclusion polygons.

Tip! *Total Polygon Area is one of your many lightbar display options. See Appendix A, "Lightbar and Screen Display Options" for more information.*

From the total area of the inclusion polygons, IntelliTrac subtracts the:

- Area of any exclusion polygons wholly within inclusion polygons
- Area of any parts of exclusion polygons within inclusion polygons

Figure 6-4 shows how IntelliTrac calculates the total polygon area. Polygons 1, 3, and 4 are inclusion polygons; polygon 2 is an exclusion polygon.



In A, the total polygon area is Polygon 1 area minus Polygon 2 area.

In B, the total polygon area is Polygon 1 area minus the shaded area of Polygon 2.

In C, the total polygon area is the sum of Polygons 1, 3 and 4 area minus the three shaded areas of Polygon 2.

Figure 6-4: Total polygon area calculations in IntelliTrac

Saving Polygons

When you set polygon points while flying, you can quickly save the polygon using the SAVE Quick Key after setting your final polygon point. Polygons are normally components of a job (as are flown patterns) so if you are creating a polygon to save with a job save the job and the polygon. Alternatively, you can create, save, and use polygons without making them components of a job (see the two sections after the following procedure).

To save a polygon with a job:

1. After setting all your polygon points press the **SAVE** Quick Key to save the polygon.

2. Press **KEYPAD > SAVE > JOB > n** (where 'n' is the job number) to save the job.

The number you give a polygon shows on screen within its boundary (see Figure 6-1 on page 102) when you first save the job containing the polygon. Once you save the job, new polygons saved with that job display their number as they are saved.

Saving/Using a Polygon without a Job - Single Session

Use this procedure if you want to create and use a polygon but do not want to keep the polygon after you exit IntelliTrac.

1. Press **KEYPAD > CLEAR > JOB > ENTER** to clear all jobs. <No Job Name>* is displayed in the Header area.

2. Press **KEYPAD > POLY > POLY** then use the swath advance buttons to define your polygon points (see step 1 of "Setting Polygon Points as You Fly" on page 103).

3. When you have finished defining your polygon, do not use the SAVE Quick Key.

   Instead, press **KEYPAD** > **SAVE** > **POLY** > **EXIT** (so do not enter a poly number). This allows you to keep the polygon on screen but without a number (a temporary save). IntelliTrac returns you to the Map screen with the polygon still displayed and with the SET A button available. The polygon swath setup buttons are no longer visible.

4. Set your pattern points (A, B, and C if necessary) and fly your swath guidance lines in order.

   You cannot use the Enter Poly Pat feature with these temporarily saved polygons.

   When you exit IntelliTrac, your temporarily saved/used polygon is cleared from IntelliTrac's memory.

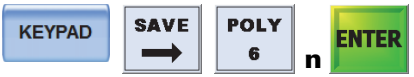
Saving/Using a Polygon without a Job - Multiple Sessions

Use this procedure if you want to create and use a polygon and want to keep the polygon after you exit IntelliTrac, without saving the polygon to a job. The polygon is saved to a job as a component of JOB 00 (000) and remains a component of JOB 00 until you overwrite JOB 00.

1. Press **KEYPAD > CLEAR > JOB > ENTER** to clear all jobs. <No Job>* shows in the Header area.

2. Press **KEYPAD > POLY > POLY** then use the swath advance buttons to define your polygon points (see Step 1 of "Setting Polygon Points as You Fly" on page 103).

3. When you finish defining your polygon, press **KEYPAD > SAVE > POLY > n > ENTER** (where 'n' is the polygon number).



   IntelliTrac returns you to the Map screen with the polygon still displayed with the SET A button available and the polygon setup swath buttons no longer visible. Do not save the job.

4. Set your pattern points (A, B, and C if necessary) and fly your swath guidance lines in order.

   You can use the Enter Poly Pat feature with polygons saved in this manner—see "Managing A|B Lines with Polygons" on page 114.

   When you exit IntelliTrac your polygon is automatically saved to JOB 000 and when you restart IntelliTrac JOB 000 is on screen with your polygon (ZOOM > CENTER if necessary). The polygon remains a component of JOB 000 until you save JOB 000 with new components.

Editing a Polygon

You can edit all aspects of a polygon.

To edit a polygon:

1. Press **SETUP > SETUP > SETUP > Polygons**. The Create & Modify Polygons window appears (see Figure 6-2 on page 107).

   The Job and Polygon fields default to the current job and polygon 1 in that job.

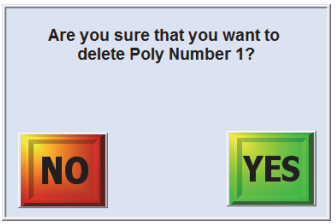
2. See "Manually Entering GPS Coordinates of a Polygon" on page 107 for instructions on entering/editing polygon information.

Deleting a Polygon

⚠WARNING: You can use the same polygon numbers in multiple jobs; therefore, make sure that when deleting a polygon you delete it from the correct job. The number you enter is the number of the polygon in the current job.

To delete a polygon:

1. Press **KEYPAD > CLEAR > POLY > n > ENTER** (where 'n' is the number of the polygon you want to delete). A message similar to the one below appears.

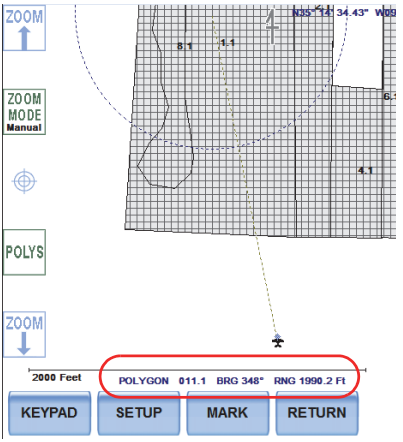


2. Press **YES** to confirm the deletion.

Receiving Guidance to a Polygon

When you receive guidance to a polygon:

- The lightbar provides guidance to the center of the polygon and a dotted line appears between the aircraft and the polygon's center.
- The bottom of the Moving Map area displays "POLYGON" and bearing and range values for the polygon.
- If you set Time to Edge and Edge Distance as display options for your lightbar their values appear when a polygon side is in your flight path. If you cross the polygon's edge and are inside the polygon, the display changes to the time and distance to the next side in your flight path.



To receive guidance to a polygon:

1. Load the job the polygon is saved in (loading a job provides access to all polygons in the job).
2. Press **KEYPAD > SET > POLY\6 > n > ENTER** (where 'n' is the polygon to which you want to receive guidance).

To cancel guidance to a polygon:

- Press **KEYPAD > ENTER**

  The screen briefly displays the message "Return to Mark cancelled."

Managing A|B Lines with Polygons

When you create a polygon and save it with a job, IntelliTrac can apply an A|B line to one side of the polygon. If required, you can move the auto-applied A|B line sequentially around the polygons sides.

Auto-applying A|B Lines to a Polygon

When IntelliTrac automatically applies an A|B line to a polygon side it also automatically provides a swath guidance array from that A|B line. This eliminates the need for you to manually create (fly) an A|B line. By default, IntelliTrac applies the A|B line to the job's lowest numbered polygon (you can change this) and the side of that polygon that results in the least number of swaths to cover the polygon area. You can, however, change the polygon side that the swath array is based upon (see "Rotating the A|B Line Around a Polygon" on page 117). To use this feature, generally referred to as 'Enter Poly Pat', you need to first load a job that has a polygon or polygons saved with it.

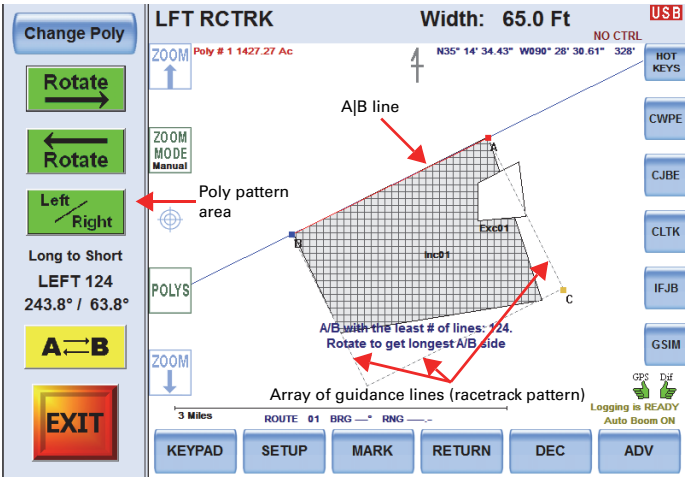
To auto-apply A|B lines to a polygon:

1. Press **KEYPAD > SET > JOB\9 > n > ENTER** (where 'n' is the job number) to load a job that has polygons saved with it.

2. If necessary, select the pattern type you want to fly (see "Entering Basic Job Details (Quick Start)" on page 34 for the pattern setup procedure).
3. Press **KEYPAD > ENTER > POLY\6 > PATTERN\1**.

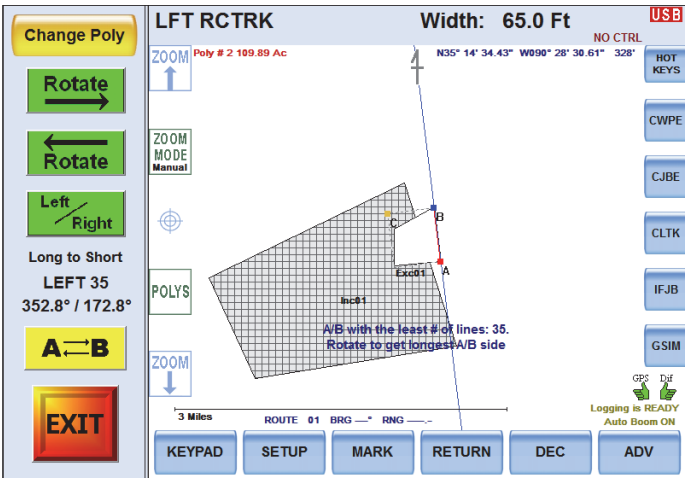
IntelliTrac:

- Applies an A|B line to the side of the lowest numbered polygon that will result in the fewest number of swaths (see figure below—inclusion polygon 'Inc01' is the active polygon)
- Provides an array of guidance lines
- Displays the poly pattern area in front of the Data area—'LEFT 124' indicates you fly right to left for 124 swaths)



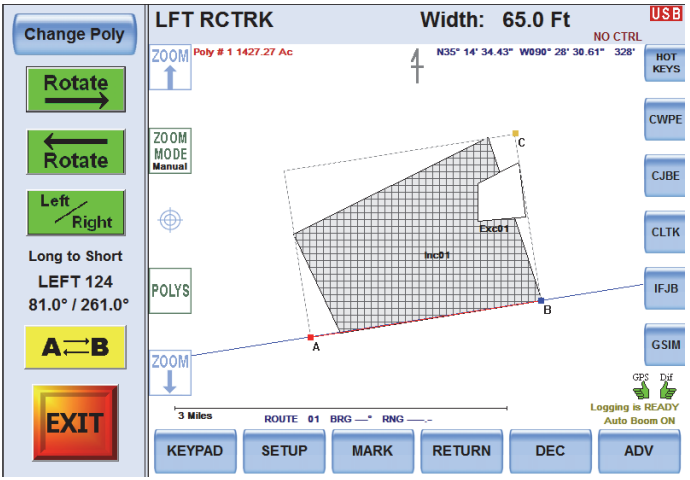
4. Press **Change Poly** to apply the A|B line to a different polygon if your job has multiple polygons. The A|B line and guidance array shift to the next polygon and the on-screen polygon data updates.

Example: 'Exc01' is the active polygon and the poly pattern area displays 'LEFT 35' (flying right to left and 35 swaths).



5. Press **Rotate** to move the A|B line counter-clockwise to the next longest side of the polygon (see "Rotating the A|B Line Around a Polygon" on the following page for more information).

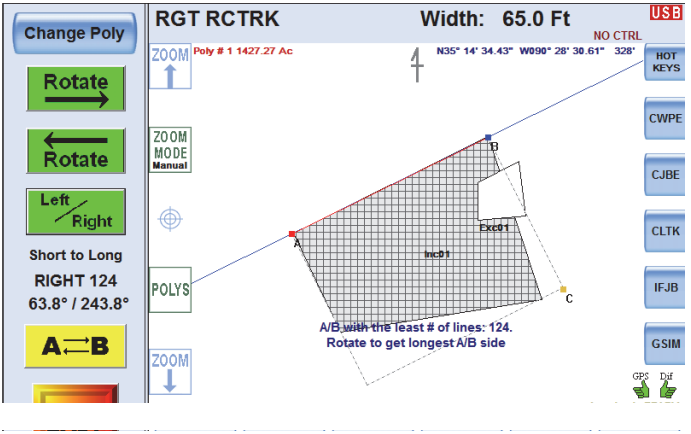
Example: The figure below shows the polygon (Inc01) from step 3 after it is rotated once using the Rotate right button—rotating the polygon once to get the longest A|B side.



6. Press **Left/Right** to switch the guidance array to the left or right of the A|B line.

Example: The figure below shows the polygon (Inc01) from step 3 after you press Left/Right:

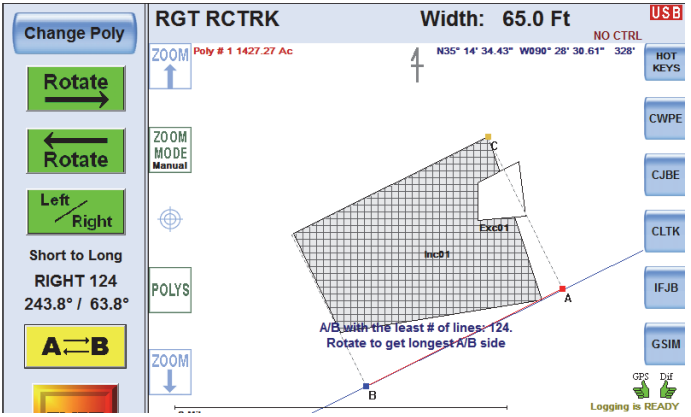
- *In the Moving Map area 'LFT RCTRK' changes to 'RGT RCTRK' and the A|B line points (A and B) have switched positions*
- *The poly pattern area displays 'Short to Long' instead of 'Long to Short' and displays 'RIGHT 124' in place of 'LEFT 124'*



7. Press **AB** to switch to the opposite side of the polygon. The A and B points reverse so that the guidance array stays on the correct side of the A|B line.

Example: The figure below shows the polygon (Inc01) from step 3 after you press AB:

- *In the Moving Map area 'LFT RCTRK' changes to 'RGT RCTRK' and the A|B line moves to the opposite side of the polygon*
- *The poly pattern area displays 'Short to Long' instead of 'Long to Short' and displays 'RIGHT 124' in place of 'LEFT 124'*



Rotating the A|B Line Around a Polygon

After IntelliTrac has applied the A|B line you can rotate it around the polygon to suit the prevailing conditions.

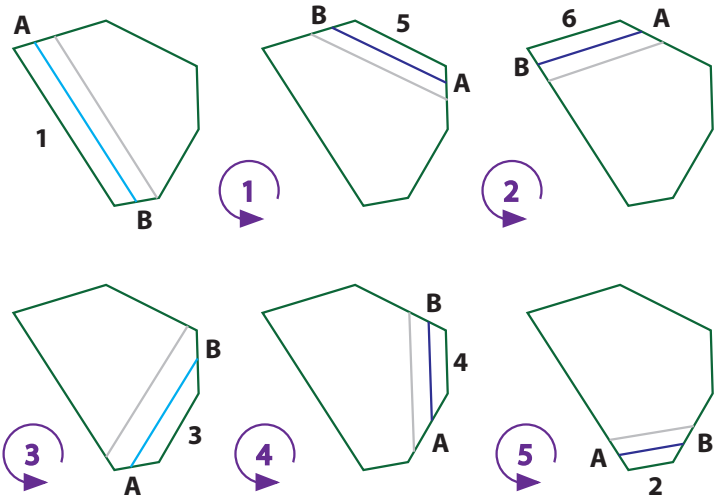


Figure 6-5: Rotating the A|B Line around a polygon

Figure 6-5 shows the counter-clockwise order in which IntelliTrac applies the A|B line to the polygon sides using the Long(est) to Short(est) rule. IntelliTrac has initially applied the A|B line to side 1—the side that results in the least number of swaths. Each time you press the **Rotate** button (in this example) IntelliTrac applies the A|B line in the order of the longest side to the shortest side, that is in the order side 5, 6, 3, 4, 2. (Only one guidance line is shown after the A|B line to indicate that the guidance array is to the left of the A|B line.)

- 1 is the side that will require the least number of swaths to complete the spraying (it is also the longest side in the example but it may not be).
- 2–6 are the polygon sides by decreasing length.

Each time you press the Rotate button the A|B line rotates counter-clockwise to the polygon side in the order shown.

Saving and Recalling Patterns

A pattern in IntelliTrac refers to the spray pattern you use to spray your field. You can to store up to 99 patterns per job with IntelliTrac. See “Flying Patterns” on page 51 for an overview of IntelliTrac pattern types.

Saving a Pattern

To save a pattern to a polygon:

- Press **KEYPAD > SAVE > PATTERN\1 > n > ENTER** (where ‘n’ is the pattern number)

Recalling a Saved Pattern

To recall a saved pattern:

- Press **KEYPAD > SET > PATTERN\1 > n > ENTER** (where ‘n’ is the pattern number)

Chapter 7: Advanced Setup and Customization

Entering Subscription Information
Setting Up the Lightbar
Understanding Guidance Delay
Configuring Your Display
Changing Logging Options
Flow Control
Setting GPS Options
Customized Settings

You can customize the default factory settings and perform other advanced tasks.

Entering Subscription Information

Several advanced IntelliTrac features, such as prescription maps and HQ integration, are available via subscription only. Use the Subscription Authorizations window (Figure 7-1) to select the appropriate feature and to enter your subscription code.

Note: Contact your dealer to obtain subscription codes.

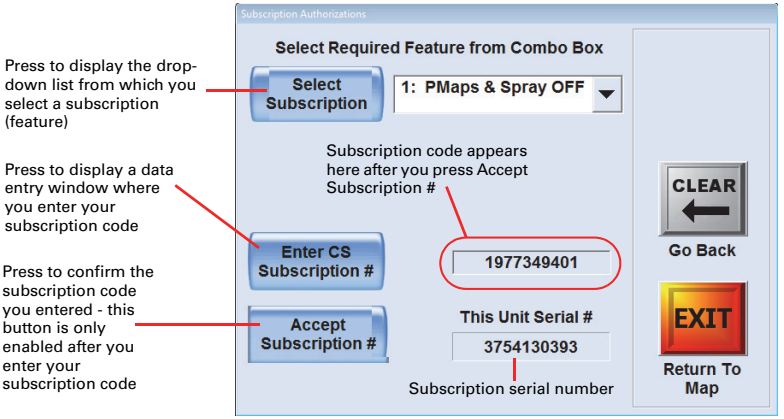
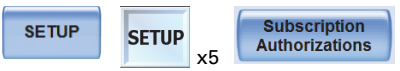

Press to display the drop-down list from which you select a subscription (feature)
Press to display a data entry window where you enter your subscription code
Press to confirm the subscription code you entered - this button is only enabled after you enter your subscription code
Subscription Authorizations
Select Required Feature from Combo Box
Select Subscription
1: PMaps & Spray OFF
Subscription code appears here after you press Accept Subscription #
CLEAR
Go Back
Enter CS Subscription #
1977349401
EXIT
Accept Subscription #
This Unit Serial #
3754130393
Return To Map
Subscription serial number

Figure 7-1: Subscriptions Authorizations window

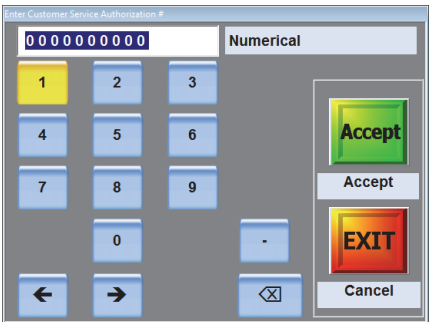
To enter subscription information:

1. Press **SETUP > SETUP > SETUP > SETUP > SETUP > SETUP > Subscription Authorizations**. The Subscription Authorizations window appears (see above).



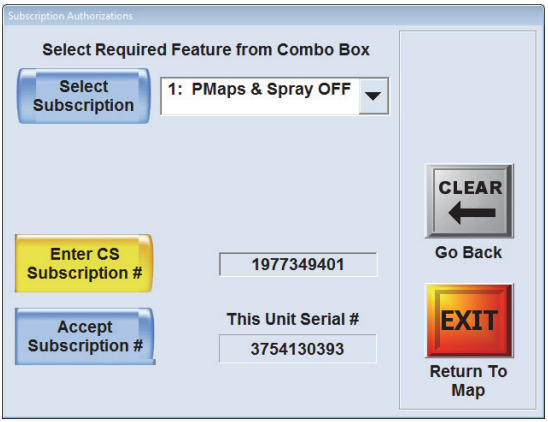
2. Press **Select Subscription** then select a subscription option from the drop-down list.

3. Press **Enter CS Subscription #** to display the Enter Customer Service Authorization # window.



4. Enter your subscription number then press **Accept**.

   The window closes, the subscription number appears to right of the Enter CS Subscription # button, and the Accept Subscription # button is active (no longer dimmed).



5. Press **Accept Subscription #**. "Thanks, you have a valid subscription." appears at the bottom left of the window.

   If you enter an invalid subscription number and press Accept Subscription # the following message appears at the bottom left of the window: "Sorry no subscription, please try again."

Setting Up the Lightbar

IntelliTrac includes several windows that enable you to set such lightbar options as:

- Lightbar displays fields
- Dimming levels and warnings
- Desensitizing the lightbar LEDs when navigating to a mark or waypoint
- Swath double-spray warning (on or off)
- Upper and lower rows of LEDs to display as a solid bar of lights or use the outermost LED only that represents your current cross-track distance or heading angle
- LED cross-track distance and heading angle values and how they appear in the LEDs
- Guidance delay—the delay in milliseconds between the time the lightbar shows a guidance cue and when you need to react

Figure 7-2 shows the windows you use to set lightbar options for both the Lightbar VI lightbar and the L7 lightbar.

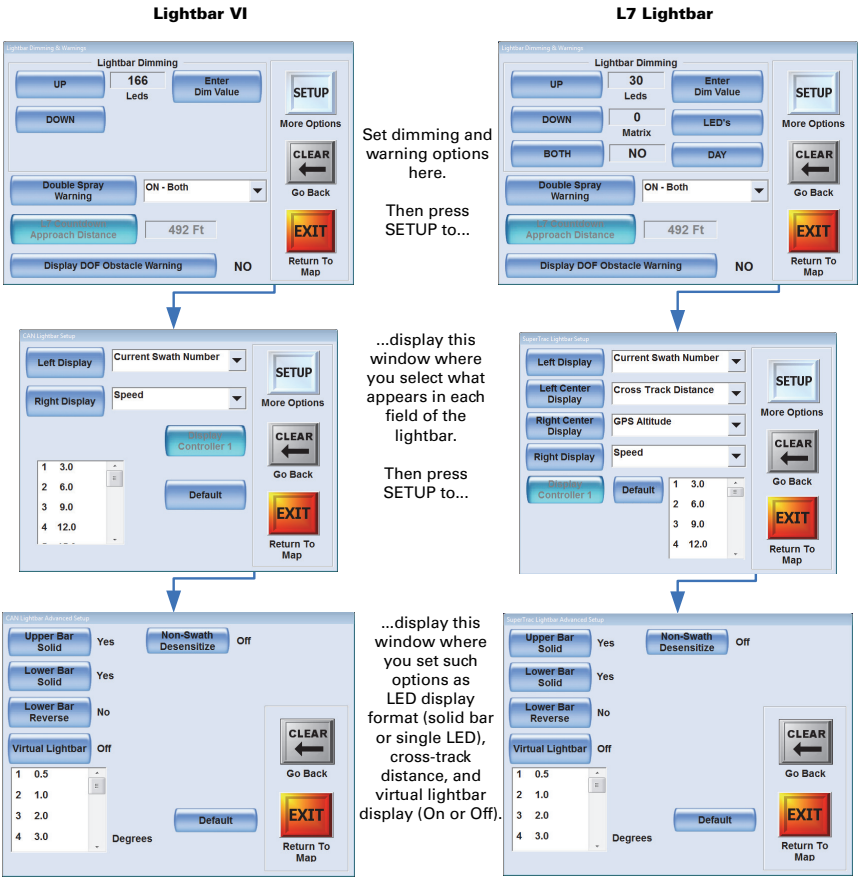


Figure 7-2: Lightbar setup windows

Configuring Lightbar Dimming and Warnings

You use the Lightbar Dimming & Warnings window (Figure 7-3) to set the following:

- Dimming level of the LEDs
- Dimming level of the Matrix (L7 lightbar only)
- Day or Night mode (L7 lightbar only)—see DAY button in Figure 7-3
- Double-spray warning
- DOF obstacle warnings (display or not display) for all known obstacles contained in the U.S. Federal Aviation Administration's Digital Obstacle File

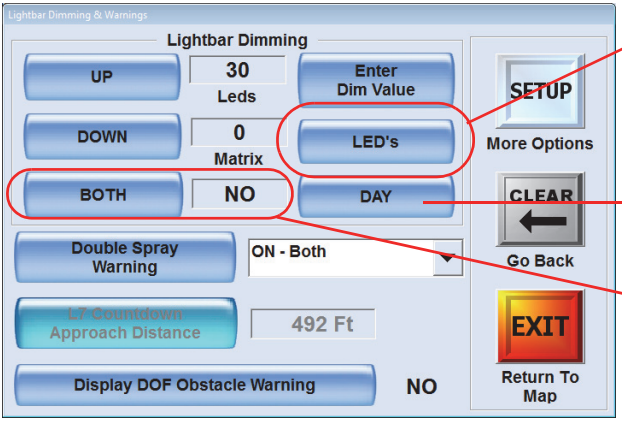


Figure 7-3: Lightbar Dimming & Warnings window

To display the Lightbar Dimming & Warnings window:

- Press **SETUP > SETUP > LIGHT BAR**.

Setting the LED or Matrix Dimming Level

On the L7 you can set the LED dimming level and the Matrix dimming level individually. For the Lightbar VI you can only set the LED dimming level (it does not include a Matrix dimming setting).

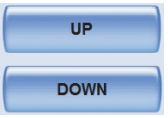
To set the LEDs dimming level or the Matrix dimming level:

1. Press **SETUP > SETUP > LIGHT BAR**. The Lightbar Dimming & Warnings window appears (see Figure 7-3 above).

2. *(L7 only)* Press the **LEDs/Matrix** button to select the level you want to adjust.

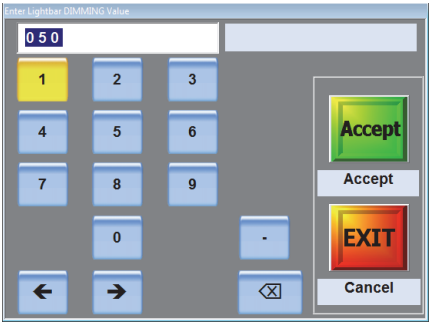
3. *(L7 only)* Make sure **BOTH** is set to NO (if set to YES, press the button to set it to NO).

4. *(VI and L7)* Press **UP** to increase the dimming level or press **DOWN** to decrease the level.



or

Press **Enter Dim Value** to display the Enter Lightbar DIMMING Value window, enter a value, then press **Accept**.



Setting the LED and Matrix Dimming Levels at the Same Time (L7 only)

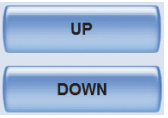
You can set both dimming levels simultaneously on the L7 lightbar only (this feature is not available on the Lightbar VI as it does not include a Matrix setting).

To set the LED and Matrix dimming levels at the same time:

1. Press **SETUP > SETUP > LIGHT BAR**. The Lightbar Dimming & Warnings window appears (see Figure 7-3 on page 123).

2. Make sure **BOTH** is set to YES (if set to NO, press the button to set it to YES).

3. Press **UP** to increase both dimming levels or press **DOWN** to decrease both levels.



Setting a Double-Spray Warning

A double-spray warning appears (if set to ON, see below) when you approach a previously sprayed area. When you come into contact with your previous swath width.

You can set the double-spray warning to any of the following:

- **OFF**
- **ON - Lightbar Warning** - warning appears on the lightbar only
- **ON - Screen Warning** - warning appears on the Map screen only
- **ON - Both** (default) - warning appears on the Map screen and the lightbar

To set a double-spray warning option:

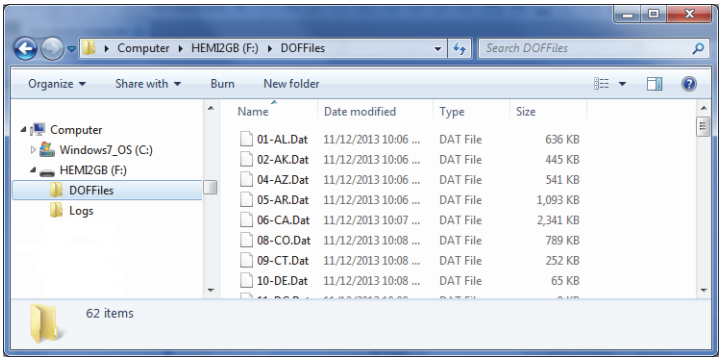
1. Press **SETUP > SETUP > LIGHT BAR**. The Lightbar Dimming & Warnings window appears (see Figure 7-3 on page 123).

2. Press **Double Spray Warning** then select an option from the drop-down list.

Setting the DOF Obstacle Warning

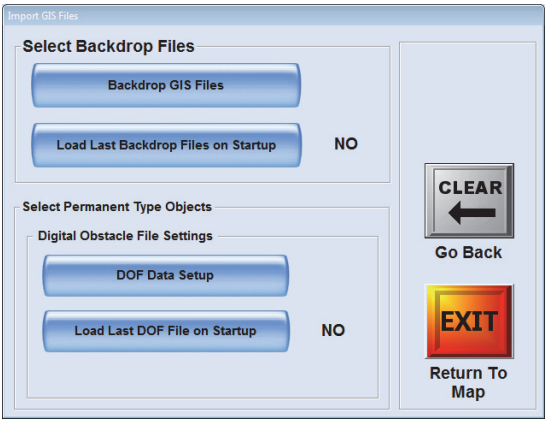
The Digital Obstacle File (DOF) is provided by the U.S. Federal Aviation Administration and contains obstacle warnings for all known obstacles (throughout the U.S. as well as other parts of North America) that may affect aviators. You can download the DOF at https://nfdc.faa.gov/tod/public/TOD_DOF.html. Before setting DOF obstacle warnings you must load the warnings file into IntelliTrac.

The DOF file is actually a group of files. To import the files from a USB drive into IntelliTrac you must place the files in a folder named DOFFiles as shown below.

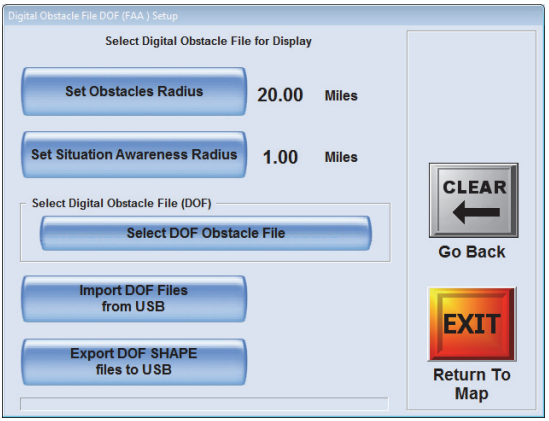


To import DOF files:

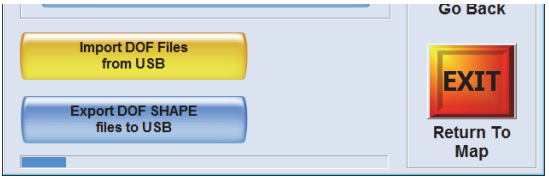
1. Press **SETUP > SETUP > SETUP > Import GIS files**. The Import GIS Files window appears.



2. Press **DOF Data Setup**. The Digital Obstacle File DOF (FAA) Setup window appears.

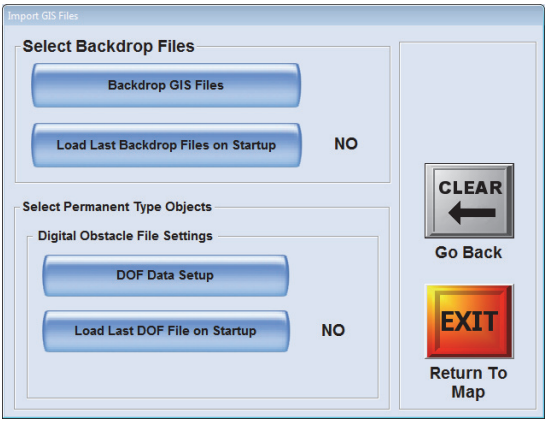


3. Press **Import DOF Files** from USB. A progress bar at the bottom of the window shows the download status.

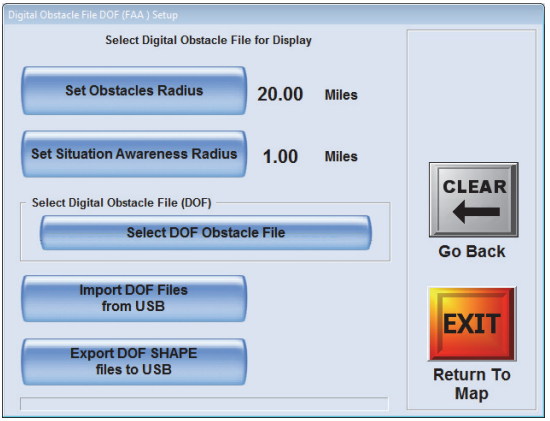


To set the DOF Obstacle warning:

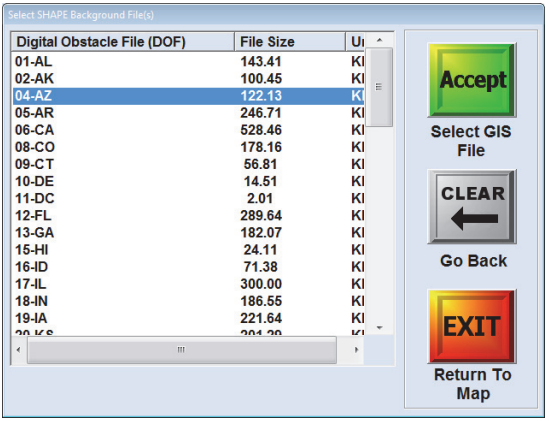
1. Press **SETUP > SETUP > SETUP > Import GIS files**. The Import GIS Files window appears.



2. Press **DOF Data Setup**. The Digital Obstacle File DOF (FAA) Setup window appears.

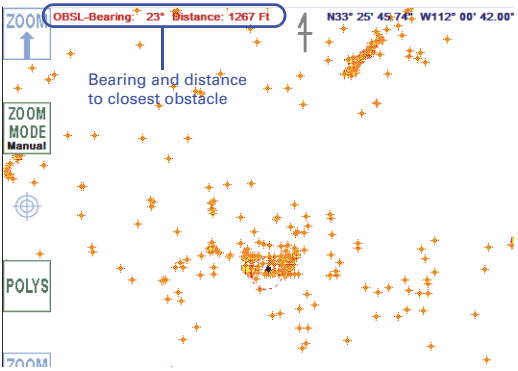


3. Press **Select DOF Obstacle File**. The Select SHAPE Background File(s) window appears.



4. Select the appropriate file and press **Accept**. The window closes and the Moving Map area displays the obstacles from the selected file (if you are flying in that area).

   Example: The figure at right shows obstacles located in Phoenix, Arizona centered around the airport.



Setting Lightbar Display Fields

Note: The figures and procedures in this section are for the L7 lightbar—procedures for the Lightbar VI are similar.

The LEDs on an IntelliTrac lightbar are separated into sections (fields) as shown in Figure 7-4. See Appendix A, "Lightbar and Screen Display Options" for a complete list of options for what to display in the LED fields.

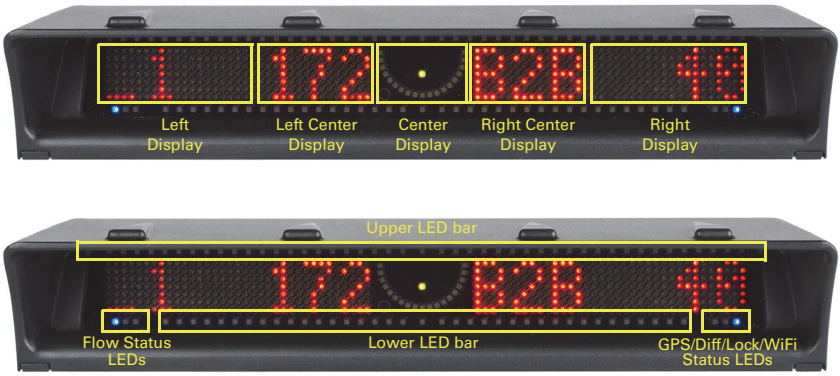


Figure 7-4: L7 lightbar field LEDs (top) and status LEDS (bottom)

IntelliTrac includes two setup windows that enable you to set what appears in the field and status LED sections: the Lightbar Setup window and the Lightbar Advanced Setup window (see Figure 7-2 on page 122).

Use the SuperTrac Lightbar Setup window to configure the left and right display fields and cross-track LED distance.

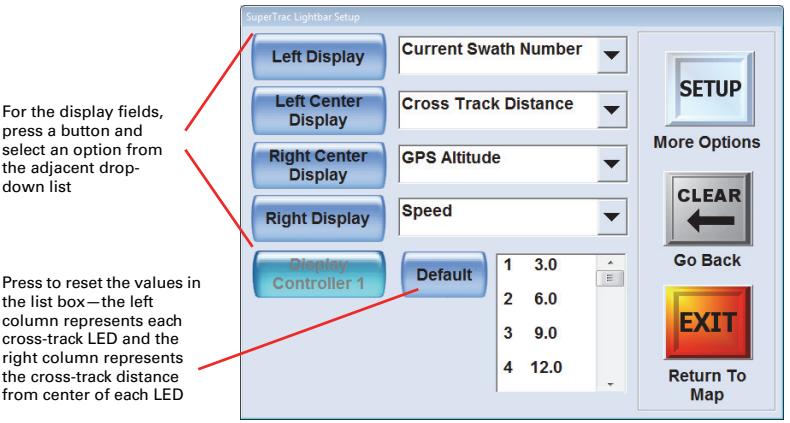


Figure 7-5: SuperTrac Lightbar Setup window

Use the SuperTrac Lightbar Advanced Setup window to configure the upper and lower row LEDs, set the virtual (onscreen) lightbar to on/off as well as its cross-track LED distance, and turn non-swath desensitization on/off.

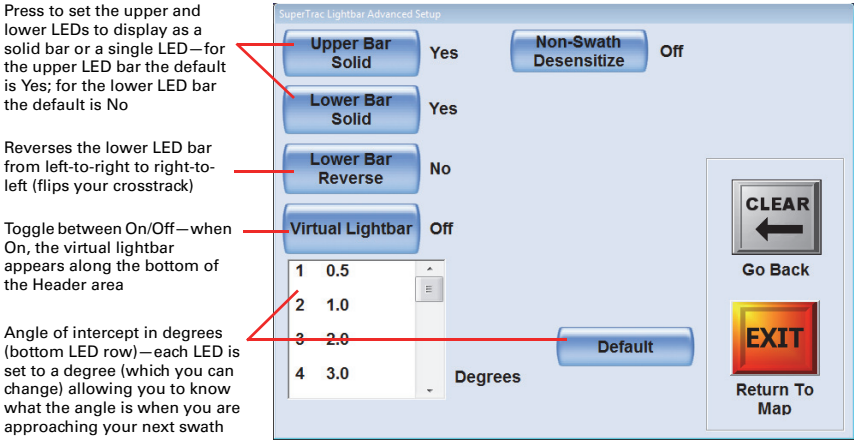

Press to set the upper and lower LEDs to display as a solid bar or a single LED—for the upper LED bar the default is Yes; for the lower LED bar the default is No
Reverses the lower LED bar from left-to-right to right-to-left (flips your crosstrack)
Toggle between On/Off—when On, the virtual lightbar appears along the bottom of the Header area
Angle of intercept in degrees (bottom LED row)—each LED is set to a degree (which you can change) allowing you to know what the angle is when you are approaching your next swath
SuperTrac Lightbar Advanced Setup
Upper Bar Solid
Yes
Lower Bar Solid
Yes
Lower Bar Reverse
No
Virtual Lightbar
Off
Non-Swath Desensitize
Off
1 0.5
2 1.0
3 2.0
4 3.0
Degrees
Default
CLEAR
Go Back
EXIT
Return To Map

Figure 7-6: SuperTrac Lightbar Advanced Setup window

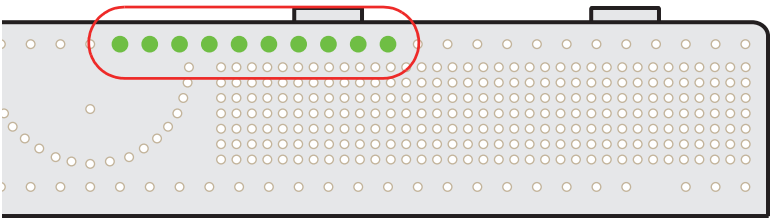
Setting Lightbar Field LEDs

1. Press **SETUP > SETUP > LIGHT BAR > SETUP**. The SuperTrac Lightbar Setup window appears (see Figure 7-5 on page 129).
2. For the Left Display, Left Center Display, Right Center Display, and Right Display fields, press the appropriate button and select a display option from the drop-down list.

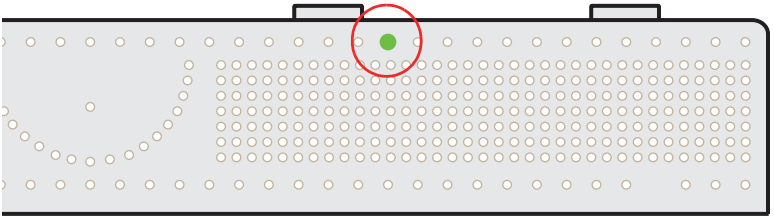
Setting Lightbar Status LEDs

You can set the upper and lower rows of LEDs on the lightbar to display as a solid row of LEDs or as a single LED using the Upper Bar Solid and Lower Bar Solid fields of the SuperTrac Lightbar Advanced Setup window (see Figure 7-6). For each field:

- Set to YES to show as a solid row of LEDs. As the cross-track distance or heading angle increases, more LEDs are illuminated (from center outward); as the distance or angle decreases, fewer LEDs are illuminated.



- Set to NO to show as a single LED. As the cross-track distance or heading angle increases, the single illuminated LED is farther from the center; as the distance or angle decreases, the LED is closer to the center.



To set lightbar status LEDs:

1. Press **SETUP > SETUP > LIGHT BAR > SETUP > SETUP**. The Lightbar Advanced Setup window appears (see Figure 7-6 on page 130).

2. Press **Upper Bar Solid** and/or **Lower Bar Solid** to set the upper LED row (cross-track) and/or lower LED row (heading angle) to Yes or No.

Displaying/Hiding the Virtual Lightbar

When displayed the virtual lightbar appears along the bottom edge of the Header area on the Map screen.

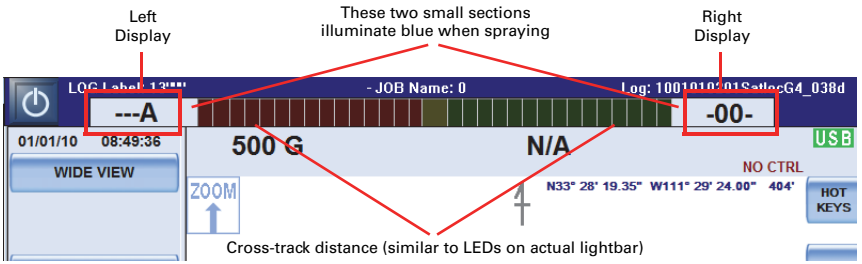
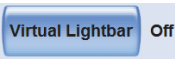


Figure 7-7: Virtual lightbar

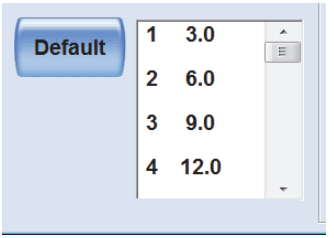
To display/hide the virtual lightbar:

1. Press **SETUP > SETUP > LIGHT BAR > SETUP > SETUP**. The Lightbar Advanced Setup window appears (see Figure 7-6 on page 130).

2. Press **Virtual Lightbar** to change the current selection.



Setting the Cross-Track Sensitivity



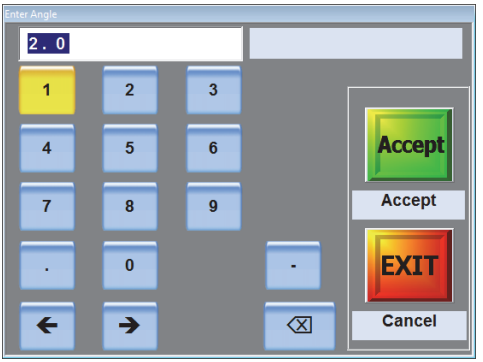
Cross-track is the distance you are off your swath line. Cross-track sensitivity refers to the relationship between how far you are off your swath line and how this distance is represented by LEDs on the lightbar (or LED indicators on the virtual lightbar).

The default lightbar crosstrack sensitivity is 3 ft per LED and is shown in the list box (at right) of the SuperTrac Lightbar Setup window. The first LED illuminates when the cross-track distance reaches 3 ft, the second LED illuminates when the distance reaches 6 ft, and so forth. There are 15 settings; one for each LED. You can change any of the values. To reset all the values to their defaults, press Default.

To set cross-track sensitivity:

1. Press **SETUP > SETUP > LIGHT BAR > SETUP**. The SuperTrac Lightbar Setup window appears (see Figure 7-5 on page 129).

2. Press the number in the list box that corresponds to the LED number you want to change. The Enter Angle window appears.



3. Enter a new value then press **Accept**. The new value appears next to the LED number.

To reset the cross-track distance settings to the factory defaults:

- In the SuperTrac Lightbar Setup window, press **Default**.

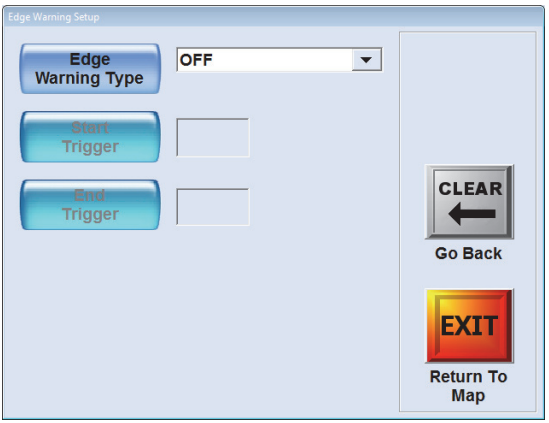
Setting the Lightbar Edge Warning

The Edge Warning feature in IntelliTrac enables you to receive a visual warning (flashing lightbar) when you get within a certain distance or time of a polygon. The start trigger determines when the lightbar starts flashing and the end trigger determines when the flashing stops.

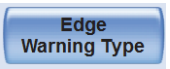
The start of the flashing lets you know you are getting close; the end of the flashing lets you know you are at the point where you need to take action to, for example, set an A|B line or turn on spray.

To set the lightbar edge warning:

1. Press **SETUP > SETUP > SETUP > Edge Warning**. The Edge Warning Setup window appears. The default edge warning setting is Off (the Start Trigger and End Trigger buttons are disabled).

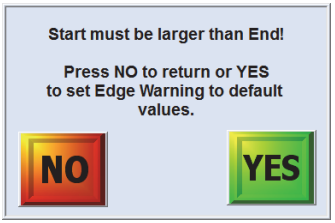


2. Press **Edge Warning Type** and select **Time** or **Distance**. When you select either type the Start Trigger and End Trigger buttons are enabled.



3. For each trigger, press the appropriate button, enter a value in the data entry window, then press **Accept**.

   For both distance and time, start trigger must be greater than end trigger; otherwise, the message (at right) appears when you press Accept when setting the value that invalidates this equation.



Desensitizing the LEDs

Desensitizing the LEDs relates to when you navigate to a mark or waypoint allowing you to navigate to/from a mark or waypoint with less sensitive LED distance warnings. When set to On, you then set a desensitize factor and the distance each lightbar LED represents is multiplied by this factor. For example, if the first LED is set to 3 ft and you enter "20" in the Desensitize Factor field, the first LED will not illuminate until you are within 60 ft (3 x 20) of a swath.

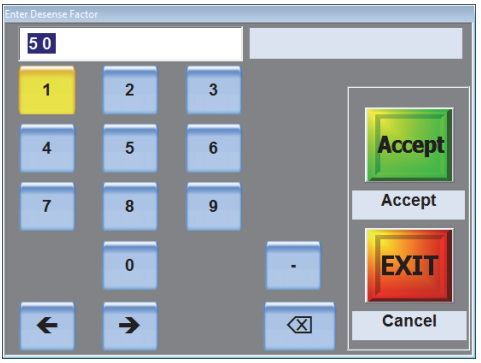
Note: As soon as you press ABC ADV (or the remote Swath Advance button) to enter the "A" point of a pattern, desensitizing is disabled.

To set the desensitize factor:

1. Press **SETUP > SETUP > LIGHT BAR > SETUP**. The SuperTrac Lightbar Setup window appears (see Figure 7-5 on page 129).

2. Press **Non-Swath Desensitize**. The setting changes to On and the Desensitize Factor button appears.

3. Press **Desensitize Factor**. The Enter Desense Factor window appears.



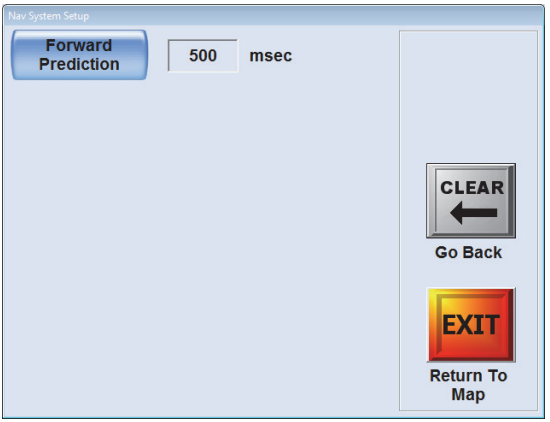
4. Enter a value then press **Accept**.

Understanding Guidance Delay

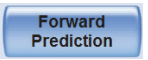
Guidance delay or 'forward prediction' in IntelliTrac is the delay (in msec) between when the lightbar displays a guidance prompt and when you need to react. For example, if you set this value to 600 the lightbar prompts you 600 msec before you need to react. The default value of 500 msec is geared toward the average airspeed.

To set a guidance delay:

1. Press **SETUP > SETUP > NAV SYSTEM**. The Nav System Setup window appears.



2. Press **Forward Prediction** and in the data entry window that appears enter the guidance delay value then press **Accept**.



Configuring Your Display

IntelliTrac provides the following display configuration options:

- Mode—Normal (daytime) colors or Dark (nighttime) colors
- User-defined fields that appear on the Map screen
- Screen orientation (course up, north up, or A|B line up)
- Screen motion (background stationary or aircraft stationary)
- Language
- Zoom and pan options (advanced setup)

Setting Up the Display

You set options related to the display using the Screen Setup window.

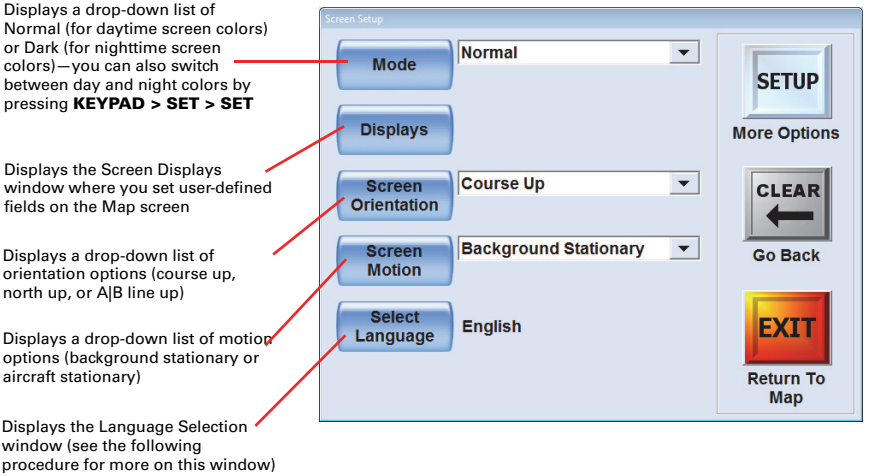

Displays a drop-down list of Normal (for daytime screen colors) or Dark (for nighttime screen colors)—you can also switch between day and night colors by pressing KEYPAD > SET > SET
Displays the Screen Displays window where you set user-defined fields on the Map screen
Displays a drop-down list of orientation options (course up, north up, or A|B line up)
Displays a drop-down list of motion options (background stationary or aircraft stationary)
Displays the Language Selection window (see the following procedure for more on this window)
Screen Setup
Mode
Normal
Displays
Screen Orientation
Course Up
Screen Motion
Background Stationary
Select Language
English
SETUP
More Options
CLEAR
Go Back
EXIT
Return To Map

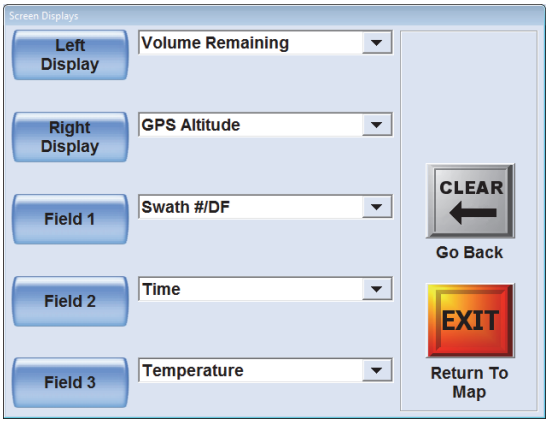
Figure 7-8: Screen Setup window

To set up the display:

1. Press **SETUP > SETUP > SCREEN**. The Screen Setup window appears.

2. For the Mode, Screen Orientation, and Screen Motion settings, press a button then select your preferred option from the drop-down list.
3. To set user-defined fields that appear on the Map screen:

a. Press **Displays**. The Screen Displays window appears.



b. For each option press a button then select an item from the drop-down list.

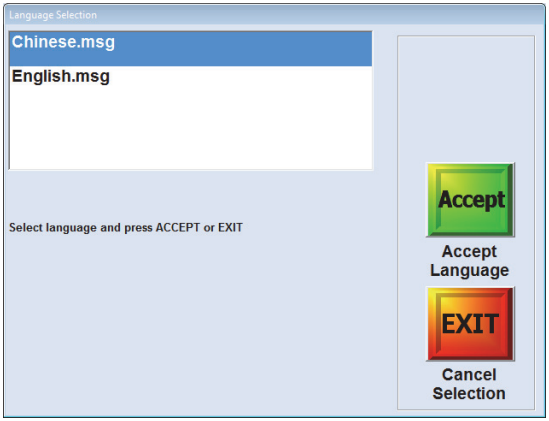
Left Display and Right Display correspond to data that appears at the top of the Moving Map area (see “Moving Map Area” on page 9).

Field 1, Field 2, and Field 3 correspond to data that appears in the Data area (see “Data Area” on page 10).

c. Press **CLEAR** to return to the Screen Setup window (and proceed to step 4 to select a language) or press **EXIT** to return to the Map screen.

4. To set the display language:

a. Press **Select Language**. The Language Selection window appears.



b. Select your preferred language then press **Accept**.

Changing the Zoom/Pan Options

You set zoom/pan options using the Screen Advanced Setup window.

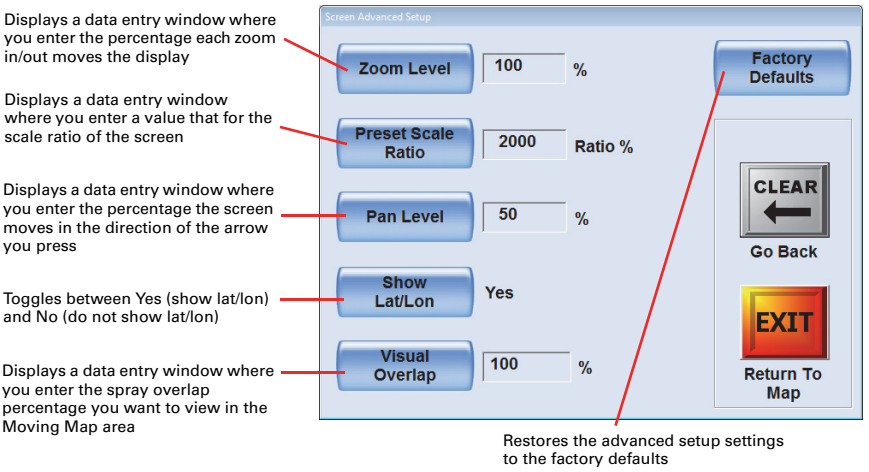

Displays a data entry window where you enter the percentage each zoom in/out moves the display
Displays a data entry window where you enter a value that for the scale ratio of the screen
Displays a data entry window where you enter the percentage the screen moves in the direction of the arrow you press
Toggles between Yes (show lat/lon) and No (do not show lat/lon)
Displays a data entry window where you enter the spray overlap percentage you want to view in the Moving Map area
Screen Advanced Setup
Zoom Level
100
%
Preset Scale Ratio
2000
Ratio %
Pan Level
50
%
Show Lat/Lon
Yes
Visual Overlap
100
%
Factory Defaults
CLEAR
Go Back
EXIT
Return To Map
Restores the advanced setup settings to the factory defaults

Figure 7-9: Screen Advanced Setup window

Visual overlap (or spray overlap) visually represents the distance beyond the spray boom that spray is applied. If you enter this percentage as "0," the Moving Map area only shows spray applied as the length of the boom. If, for example, you enter a value of 10, a 65 ft spray width with a spray overlap of 10% will display a 6.5 foot total spray overlap (3.25 feet on each side of the spray boom).

Note: Visual overlap applies to the display in the Moving Map area only. It does not apply to guidance or logged data.

To change zoom/pan options:

1. Press **SETUP > SETUP > SCREEN > SETUP**. The Screen Advanced Setup window appears (see Figure 7-9 above).

2. For the Zoom Level, Preset Scale Ratio, Pan Level, and Visual Overlap settings, press the appropriate button, enter a value in the data entry window that appears, then press **Accept**.
3. For the Show Lat/Lon setting, press **Show Lat/Lon** once to change the value and again if you want to change it back.
4. To reset the screen settings to their default values, press **Factory Defaults**.

Changing Logging Options

As described in "Understanding Job and Log Data" on page 37, logging is a valuable way to track information for each job, such as spray data, pattern details, time, and location. By default, IntelliTrac starts logging flight data once you are flying at or above 45 mph (72.4 km/h) and logs this data every one second.

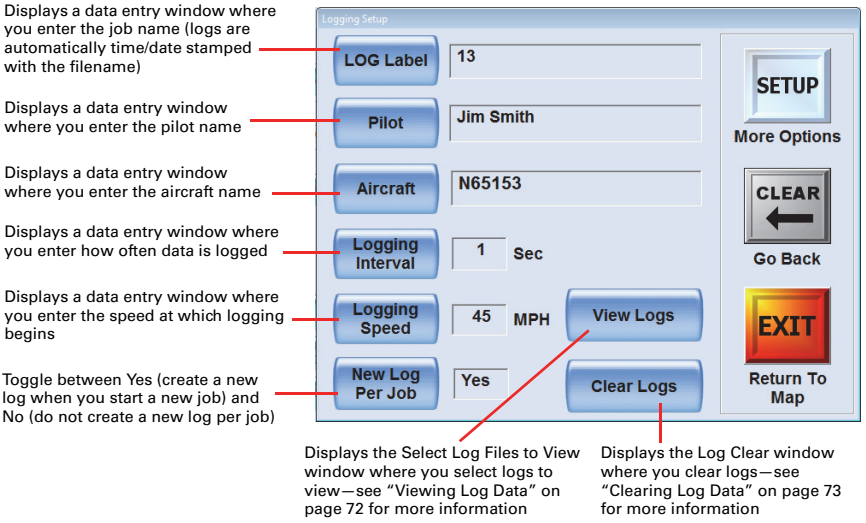

Displays a data entry window where you enter the job name (logs are automatically time/date stamped with the filename)
Displays a data entry window where you enter the pilot name
Displays a data entry window where you enter the aircraft name
Displays a data entry window where you enter how often data is logged
Displays a data entry window where you enter the speed at which logging begins
Toggle between Yes (create a new log when you start a new job) and No (do not create a new log per job)
Logging Setup
LOG Label
13
Pilot
Jim Smith
Aircraft
N65153
Logging Interval
1
Sec
Logging Speed
45
MPH
New Log Per Job
Yes
View Logs
Clear Logs
SETUP
More Options
CLEAR
Go Back
EXIT
Return To Map
Displays the Select Log Files to View window where you select logs to view—see "Viewing Log Data" on page 72 for more information
Displays the Log Clear window where you clear logs—see "Clearing Log Data" on page 73 for more information

Figure 7-10: Logging Setup window

To change logging options:

1. Press **SETUP > SETUP > LOGGING SETUP**. The Logging Setup window appears (see Figure 7-10 above).

2. For the LOG Label, Pilot, Aircraft, Logging Interval, and Logging Speed settings, press the appropriate button, enter a value in the data entry window that appears, then press **Accept**.
3. For the New Job Per Log setting, press **New Job Per Log** once to change the value and again if you want to change it back.
4. For information on viewing logs, see "Viewing Log Data" on page 72. For information on clearing logs, see "Clearing Log Data" on page 73.

Flow Control

IntelliTrac supports several flow control options. If you have a flow control system installed, flow data is collected and displayed via IntelliTrac. For detailed information on flow control options, refer the your flow control system documentation. If you are using a Satloc flow controller, related documentation is available from the Satloc website at www.satloc.com.

Setting GPS Options

You can set such GPS options as differential source, GPS message rate, and mask angle as well as send commands (standard GPS and e-Dif) to the receiver.

Displays a data entry window where you set the mask angle (default is 5°)—any satellites below this angle are ignored even if available

Displays the GPS Advanced Setup window, where you set the differential source and GPS Rx rate

Displays the GPS Receiver Commands window, where you send GPS commands to your receiver

Displays the e-Dif Commands window, where you set your absolute and relative e-Dif positions

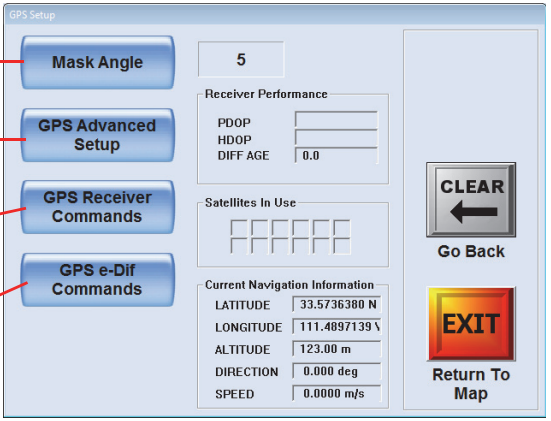


Figure 7-11: GPS Setup window

In addition to enabling you to set GPS options (such as the mask angle) the GPS Setup window provides read-only receiver, satellite, and navigation information as described in Table 7-1.

Table 7-1: GPS Setup window read-only information

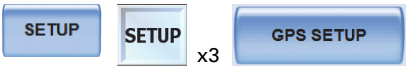
Field	Description
PDOP HDOP	Positional dilution of precision and horizontal dilution of precision Dilution of precision is a measure of receiver/satellite geometry (position of satellites to each other from the receiver). DOP reduces positioning accuracy (the lower the value the better the accuracy).
DIFF AGE	Age (in seconds) of the differential corrections signal
Satellites In Use	Number of satellites currently used in GPS calculations
LATITUDE	Your current latitude
LONGITUDE	Your current longitude
ALTITUDE	Your current altitude
DIRECTION	Your current direction
SPEED	Your current speed

Setting the Mask Angle

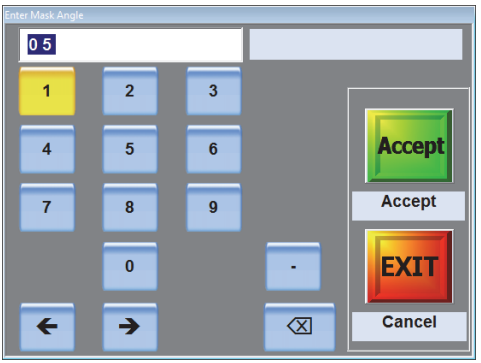
The mask angle (or elevation mask angle) is the angle below which any satellites are ignored even if they are available. Satellites that are higher above the horizon (higher in the sky) will have less noise (less signal degradation) than satellites closer to the horizon. By setting a mask angle you eliminate (mask) those satellites that are closer to the horizon and that reduce accuracy. The default mask angle is 5°.

To set the mask angle:

1. Press **SETUP > SETUP > SETUP > SETUP > GPS SETUP**. The GPS Setup window appears (see Figure 7-11 on the previous page).



2. Press **Mask Angle**. The Enter Mask Angle window appears.



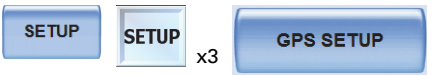
3. Enter a new mask angle value then press **Accept**.

Setting the GPS Receiver Update Rate

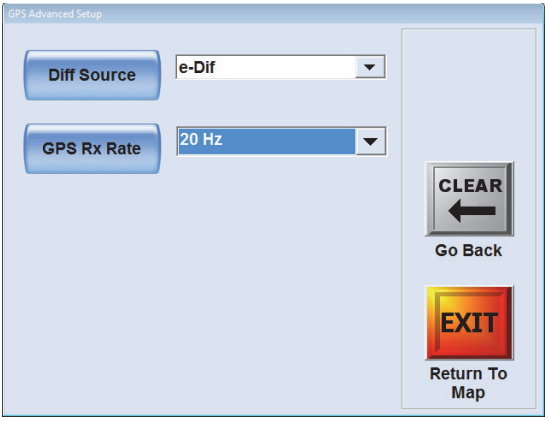
The GPS receiver update rate is how often the receiver calculates its position. The receiver inside the G4 provides updates rates up to 20 Hz (20 times/second). A higher update rate improves accuracy and reduces screen display lag time, but it also requires more processing power. Contact your local dealer or Satloc Technical Support for information on changing this setting.

To set the GPS receiver update rate:

1. Press **SETUP > SETUP > SETUP > SETUP > GPS SETUP**. The GPS Setup window appears (see Figure 7-11 on the previous page).



2. Press **GPS Advanced Setup**. The GPS Advanced Setup window appears.



3. Press **GPS Rx Rate** then select a rate from the drop-down list.

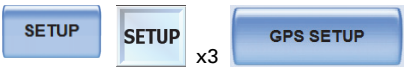
Setting the Differential Source

Differential GPS (or DGPS) corrections improve location accuracy by correcting satellite GPS positions using known fixed reference positions. Available options are WAAS (SBAS), L-band, and e-Dif. WAAS is a free service that mainly covers North America. L-band corrections are available by subscription only—contact your dealer for more information.

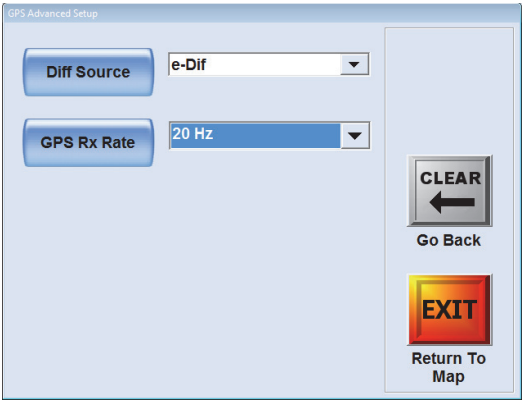
e-Dif is not a differential service (does not use satellites or reference stations with known fixed positions); however, it can provide differential-like accuracy by modeling errors and computing its own set of pseudo-corrections. See “Working with e-Dif” on page 144 for more information on e-Dif.

To set the differential source:

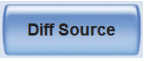
1. Press **SETUP > SETUP > SETUP > SETUP > GPS SETUP**. The GPS Setup window appears (see Figure 7-11 on page 140).



2. Press **GPS Advanced Setup**. The GPS Advanced Setup window appears.



3. Press **Diff Source** and select a source from the drop-down list.

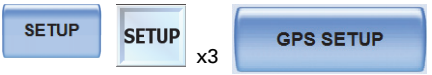


Sending GPS Commands to the Receiver

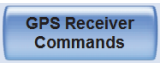
You can send GPS commands to the receiver to request such information as receiver engine and firmware version, differential application being used, and SBAS (WAAS) frequency.

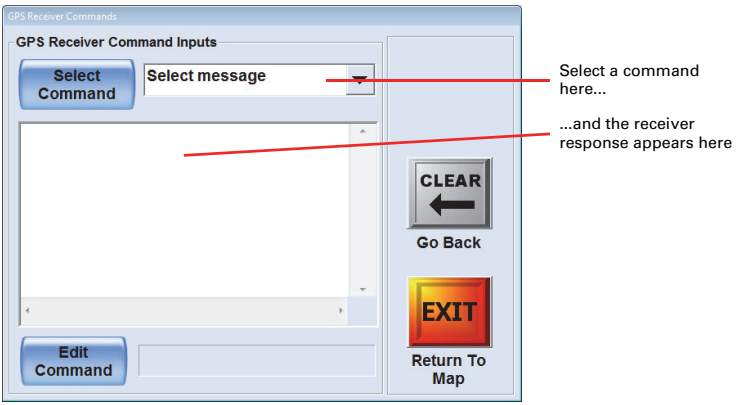
To send GPS receiver commands:

1. Press **SETUP > SETUP > SETUP > SETUP > GPS SETUP**. The GPS Setup window appears (see Figure 7-11 on page 140).



2. Press **GPS Receiver Commands**. The GPS Receiver Commands window appears.





3. Press **Select Command** and select a command from the drop-down list. The receiver response appears in the box below the drop-down.

Working with e-Dif

e-Dif provides differential-like accuracy by modeling errors and computing its own set of pseudo-corrections. Use the e-Dif Commands window (Figure 7-12) to work with e-Dif and:

- Set an absolute e-Dif position (such as for your home base) or reset an absolute e-Dif position (such as for working from a different base location)

  Note: If your base is the same each day you only need to set your absolute e-Dif position once. You reset your e-Dif position if you use a different home base (including if you then return to your original home base).

- Set a relative e-Dif position
- Reset (recalibrate) e-Dif based on your current position

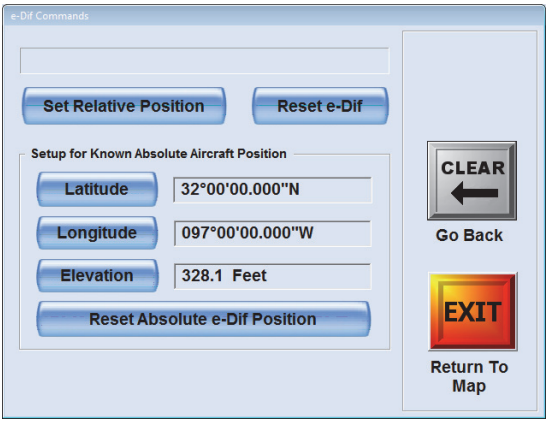
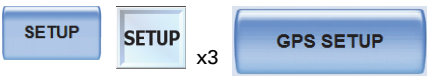


Figure 7-12: e-Dif Commands window

To display the e-Dif Commands window:

1. Press **SETUP > SETUP > SETUP > SETUP > GPS SETUP**. The GPS Setup window appears (see Figure 7-11 on page 140).



2. Press **GPS e-Dif Commands**. The e-Dif Commands window appears (see Figure 7-12 above).

To set/reset your absolute e-Dif position:

1. Display the e-Dif Commands window (see Figure 7-12 above).
2. Press **Latitude**, and in the data entry window that appears enter your known latitude value then press **Accept**.

3. Repeat step 2 for the Longitude and Elevation buttons/values.
4. Press **Reset Absolute e-Dif Position** to send the values to the GPS receiver.

To set your relative e-Dif position:

1. Display the e-Dif Commands window (see Figure 7-12 on the previous page).
2. Press **Set Relative Position**.

To reset e-Dif (recalibrate e-Dif based on your current position):

1. Display the e-Dif Commands window (see Figure 7-12 on the previous page).
2. Press **Reset e-Dif**.

Customized Settings

When you customize settings the changes are saved to either the USB drive or the G4 hard drive, depending on the logging read/write device you selected at startup (see "Starting IntelliTrac" on page 6). The user settings are stored in the .ini (initialization) file. Because you can save the changes to the USB drive, you have the following benefits:

- You can change settings on one system and transfer the new settings to another G4 system. You then can begin using the second system immediately without having to change the setup.
- You can store different settings on different USB drives and swap the drives depending on the jobs and settings you want to access.

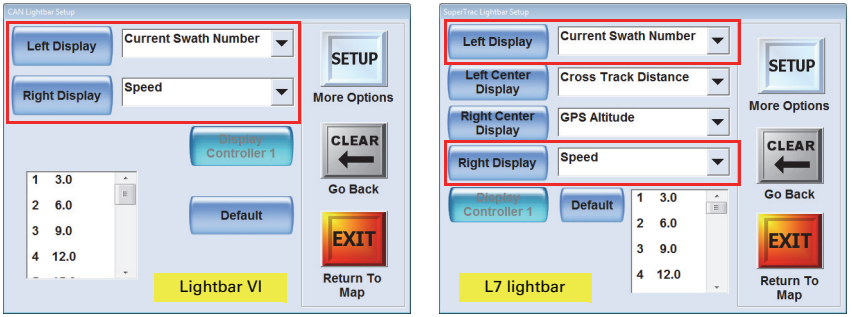
If IntelliTrac does not find an .ini file on the USB drive, it will copy the .ini file found on the hard drive to the USB drive. Also, if the G4 does not detect a USB drive, IntelliTrac will use the .ini file on the hard drive. Finally, if neither .ini file exists (as is the case with a new installation), the G4 uses default settings.

Tip! *To copy the customized settings from the USB drive to the hard drive, press SAVE > SETUP. To restore default factory settings, select SETUP > SETUP > SCREEN, then press the Factory Defaults button.*

Appendix A: Lightbar and Screen Display Options

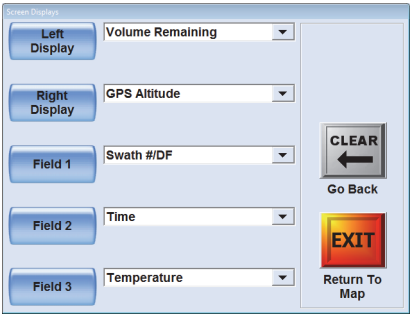
You use the Lightbar Setup and Screen Displays windows (shown below) to set the following display options:

- Lightbar
  - Left and Right fields on Lightbar VI
  - Left, Left Center, Right Center, and Right fields on L7 lightbar
- Left and right 'large format' fields in the Moving Map area of the Map screen (see "Moving Map Area" on page 9)
- Fields 1 to 3 in the Data area of the Map screen (see "Data Area" on page 10)



Left Display and Right Display fields in the Lightbar Setup window
(for both Lightbar VI and L7 lightbar)

Press SETUP > SETUP > LIGHT BAR > SETUP to display the Lightbar Setup window
(see "Setting Lightbar Display Fields" on page 129 for more information)



Left Display field, Right Display field, and Fields 1-3 in the Screen Displays window
(for display on Map screen)

Press SETUP > SETUP > SCREEN > Displays to display the Screen Displays window
(see "Setting Up the Display" on page 136 for more information)

Figure A-1: Configuring display fields on Map screen and lightbar

Table A-1 lists the available options for the display fields (outlined on the previous page) in order of how they appear in the drop-down lists as well as in alphabetical order.

Table A-1: Map screen and lightbar display field options

Fields in Order in Drop-Down Lists	Fields in Alphabetical Order
Cross Track Distance	Altimeter
Current Swath Number	Altitude
Swath Width	Amount Per Minute
Speed	Amount Per Swath
Pattern Type & Direction	Arrival Time
Heading	Barometric Pressure
Field Area	Bearing
Total Area	Blank
Edge Distance	Cross Track Distance
Time To Edge	Current Swath Number
Distance To AB	Desired Flow Rate
Distance To A	Distance To A
Distance To B	Distance To AB
Distance To Spray-on	Distance To B
Volume Sprayed	Distance To Spray-on
Volume Remaining	DOP/DF
Amount Per Swath	Edge Distance
Amount Per Minute	Elevation Difference
Flow Rate	Field Area
Desired Flow Rate	Flow Rate
Valve\Encoder Position	Heading
Time	Humidity
Elevation Difference	Job ID
Altimeter	Log Name
Polygon Entry #	Log Time Remaining
Total Polygon Area	MARK Range
Polygon In/Out	Pattern Type & Direction
Polygon ID	Polygon Entry #
Job ID	Polygon ID
Spray Time	Polygon In/Out
Swath Heading	Route/Waypoint
Log Time Remaining	Speed
Log Name	Spray Time
Wind Speed/Dir	SV/DF
Temperature	Swath #/DF
Barometric Pressure	Swath Heading
Humidity	Swath Width
DOP/DF	Temperature
SV/DF	Time
Swath #/DF	Time To Edge
Arrival Time	Total Area
Route/Waypoint	Total Polygon Area
WPT Range	Valve\Encoder Position
MARK Range	Volume Remaining
Bearing	Volume Sprayed
Altitude	Wind Speed/Dir
Blank	WPT Range

Appendix B: Hot Key Descriptions

Table B-1 provides a description and alternative button sequence for each Hot Key in IntelliTrac.

Table B-1: Hot Key descriptions

Hot Key Name	Hot Key Text	Function	KEYPAD / SETUP Button Sequence
Clear\Pattern\ Enter	CPTE	Clears the current pattern from the screen.	KEYPAD > CLEAR > PATTERN\1 > ENTER
Clear\Pattern\ Adv (UP)	CPTA	Displays IntelliTrac Setup window so you can change (move) pattern to current line and change swath as required.	
Clear\Swath	CLSW	Clears the spray information from the screen.	KEYPAD > CLEAR > SWATH\2 > ENTER
Clear\Job\Enter	CJBE	Clears the current job information from the screen.	KEYPAD > CLEAR > JOB\9 > ENTER
Clear\Job\Clear	CJCL	Displays the Jobs By Name List window where you can delete a job. See “Deleting Jobs” on page 100 for more information.	KEYPAD > INFO\0 > JOB\9
Clear\Waypoint\ Enter	CWPE	Clears the current waypoints from the screen.	KEYPAD > CLEAR > WPT\5 > ENTER
Clear\Route\ Enter	CRTE	Clears the current route information from the screen and displays the following message: “Waypoint guidance canceled”	KEYPAD > CLEAR > ROUTE\8 > ENTER
Clear\Clear	CLCL	Displays a window where you can exit IntelliTrac and shut down Windows or exit IntelliTrac and go to the Windows desktop. See “Exiting IntelliTrac” on page 29 for more information.	KEYPAD > CLEAR > CLEAR
Clear\Tracks	CLTK	Turn ON/OFF flight TRACKS (Turns) on Map screen (leaving just sprayed swaths).	
Start\New\LOG	SLOG	Closes the open log (if a log was open) and starts a new log. You can also use the Log HQ button to start a new log—see “Understanding Job and Log Data” on page 37 for more information.	KEYPAD > LOG HQ > Start New Log -or- Log HQ > Start New Log
Poly\Poly	PYPY	Enters polygon creation mode—see “Setting Polygon Points as You Fly” on page 103 for more information.	KEYPAD > POLY\6 > POLY\6

Table B-1: Hot Key descriptions *(continued)*

Hot Key Name	Hot Key Text	Function	KEYPAD / SETUP Button Sequence
Enter\Poly\ Pattern	EPYP	Enters 'automatic swath' mode and displays the Poly Pattern area in place of the Data area on the Map screen. See "Managing A|B Lines with Polygons" on page 114 for more information.	KEYPAD > ENTER > POLY\6 > PATTERN\1
Enter\Zoom	ZOOM	Displays the Zoom/Pan window. See "Zooming and Panning the Moving Map Area" on page 20 for more information.	KEYPAD > ZOOM/PAN
Enter\EDif	EDIF	Displays the e-Dif Commands window, where you configure e-Dif. See "Setting GPS Options" on page 140 for more information.	SETUP > SETUP > SETUP > SETUP > GPS Setup > GPS e-Dif Commands
Enter\AGDisp Model	DISP	Shortcut to AgDisp (Drift) modeling window.	
Enter\METData	METD	Displays the MET Setup window where you can edit the following: Temperature Humidity Wind Speed Wind Direction Bar (barometric) pressure	SETUP > SETUP > SETUP > SETUP > MET Setup
Enter\FLOW\ CAL	FCAL	Shortcut to Flow CAL window	
Enter\HK\ Internet	MISC	Displays a window (over the Data area) with the following tabs: HotKeys, Internet, Misc. Press the MISC Hot Key again to close the window.	
Enter\XM Radio\Weather	XMRW	Displays the XM Radio window, where you select an XM Radio channel. This functionality requires an XM Radio subscription and WX weather receiver.	
Return\Mark\0	RTM0	Return to the Zero mark.	
Info\Setup	IFSP	Displays the IntelliTrac Setup window (first Setup window).	
Info\Info	IFIF	Displays the Flow Control Setup window	KEYPAD > INFO\0 > INFO\0 -or- SETUP > SETUP > FLOW CTRL

Table B-1: Hot Key descriptions *(continued)*

Hot Key Name	Hot Key Text	Function	KEYPAD / SETUP Button Sequence
Info\Job	IFJB	Displays the Jobs By Name List window to view list of all jobs and load a job.	KEYPAD > INFO\0 > JOB\9
Info\Swath	IFSW	Displays the Unsprayed Swaths window.	KEYPAD > INFO\0 > SWATH\2
Info\Pattern	IFPT	Displays the Pattern Options window.	KEYPAD > INFO > PATTERNS -or- SETUP > SETUP > SETUP > PATTERNS
Info\Mark	IFMK	Displays the Marks window.	KEYPAD > INFO\0 > MARK\4
Info\Waypoint	IFWY	Displays the Waypoints By Name window.	KEYPAD > INFO\0 > WPT\5
Set\Set	STST	Toggles the display between Normal (day) mode and Dark (night) mode.	KEYPAD > SET > SET
Set\Swath\ Enter	SSWE	Sets current swath as 'swath 1'.	KEYPAD > SWATH\2 > ENTER
Set\Pattern\ Adv (UP)	SPTA	(Must be using an A|B|C pattern) advances the current A|B|C pattern to the new position according to the Left/Right Offset	
Set\Pattern\ Dec (DOWN)	SPTD	(Must be using a A|B|C pattern) decrements the current A|B|C pattern to the new position according to the Left/Right Offset	
Set\Pattern\1	PAT1	Recalls Pattern 1 from current job	
Set\Pan\ ON/OFF	PANO	Toggles between Pan Mode ON and Pan Mode OFF (the Turn PAN ON/OFF button in the Data area shows the current setting) You can also press the Turn PAN ON/OFF button in the Data area to toggle the setting on/off.	
Set\Zoom\ MAN/AUTO	ZOMA	Cycles between the three zoom modes: Manual, Manual Locked, and Auto. You can also press the ZOOM MODE button to cycle through the settings.	
Set\AIMMS20\ ON/OFF	AIMS	Shortcut to turn ON/OFF AIMMS20 device for AgDisp (Drift).	

Table B-1: Hot Key descriptions *(continued)*

Hot Key Name	Hot Key Text	Function	KEYPAD / SETUP Button Sequence
Set\Preset Scale Ratio	SRAT	Shortcut to return to Preset Scale Ratio and ZOOM defaults as set in ZOOM dialog.	
Hide\Show GPS SIM	GSIM	Shortcut to turn HIDE/SHOW visually the Internal Simulator when active.	
Auto\USB\Files	AUSB	Shortcut to copy file from USB to C:\..Data folder.	
Forward\Pattern	FWPT	Shortcut to advance Pattern Type before designating A|B.	
Reverse\Pattern	RVPT	Shortcut to decrement Pattern Type before designating A|B.	

Index

A

A|B line
- auto-applied, rotating round a polygon 117
- auto-applying to a polygon 114
- display screen orientation 136
- flying left or right of 55
- missions 98
- overview 33

A21 2
absolute position (e-Dif) 144
AgLaser 26
aircraft, logging option 139
area
- Data 10
- Header 11
- Moving Map 9

AutoCal
- and dry flow control 41
- monitor only flow control 40

automatic guidance 86

B

background maps 2
Back-to-Back pattern 57, 59
Back-to-Back Skip pattern 57, 61, 62
before you start using IntelliTrac 26
boom
- other settings 44
- test, performing 44

buttons, pressing in IntelliTrac 11

C

changing
- logging options 139
- zoom and pan options 138

clearing
- jobs 100
- logs 73, 139

closed pattern 50
commands
- e-Dif 140
- GPS 140

coordinates (systemwide settings) 26
cross-track sensitivity 132

D

data
- files, managing 71
- files, transferring 76
- job data files and log files 71
- log, clearing (deleting) 73
- viewing log data 72

Data area 10
day mode, lightbar 123
day mode, screen 22
deleting
- all jobs 101
- polygon 112
- single job with a Hot Key 100
- single job with Keypad 100
- waypoint 93

desensitizing LEDs (lightbar) 133
desktop 28
DGPS 3
differential GPS. See DGPS
differential source 142
dimming level, lightbar 123
display
- changing the zoom/pan options 138
- clearing 55
- setting the orientation 138
- setting up 136

display fields, setting for lightbar 129
display options
- lightbar 148
- Map screen 148

displaying the virtual lightbar 131
DOF obstacle
- importing 126
- warning 125

double-spray warning 56, 123, 124

E

edge distance (lightbar option) 113
edge warning (lightbar) 132
e-Dif 3
- commands 140
- resetting 145
- setting relative position 145
- working with 144

editing
- polygon 112
- waypoint 92

entering
- field values 19
- subscription information 120

exiting IntelliTrac 29
Expand pattern 58, 67

F

field values, entering 19
files
  data and log, managing 71
  data, transferring 76
  log data vs. job data 71
  log, transferring to PC 80
flow
  lead time, changing 44
  rate, maximum 43
flow control 140
  auto-detection by G4 IntelliTrac 28
  volume 40, 41
Flow Control Setup window 38
flow mode 40
flying patterns 51

G

GIS file
  importing 109
GIS files 3
global units 26
GPS commands 140
GPS commands, sending to receiver 143
GPS options 140
GPS update rate 141
guidance
  automatic 86
  receiving to a polygon 113
guidance delay 135

H

Header area 11
hiding the virtual lightbar 131
Hot Keys
  deleting a single job 100
  descriptions of all keys 152
  setting 23
HQ 3, 120

I

importing
  DOF obstacles file 126
  GIS file 109
ini file
  not found 145
  user settings, storing 145
IntelliTrac
  before you start 26
  entering field values 19
  exiting 29
  pressing buttons 11
  setting up 17
  starting 6
  systemwide settings 26

J

job
  clearing 100
  deleting a single job with a Hot Key 100
  deleting a single job with the Keypad 100
  deleting all 101
  entering details (Quick Start) 34
  overview 33
  recalling 99
  saving 98

K

Keypad
  using 12

L

L7 lightbar 2
language 136
last sprayed point, M0 (zero) 69
lead time
  edge lead time, on/off 44
  flow, changing 44
lightbar
  cross-track sensitivity 132
  desensitizing LEDs 133
  dimming level 123
  display fields 129
  display options 148
  displaying the virtual lightbar 131
  edge distance 113
  edge warning, setting 132
  guidance delay 135
  L7 2
  Matrix dimming level 123
  setting up 122
  status LEDs 130
  time to edge 113
  warning 123
  warnings 56
local time offset 26
log
  clearing 139
  clearing (deleting) log data 73
  files, managing 71
  files, transferring to PC 80
  log data files and job data files 71
  overview 33
  viewing 72, 139
  viewing log data 72
LOG label 139
logging
  changing options 139
  clear logs 139
  interval 139

speed 139
view logs 139
logging device (selecting) 7

M

M0. See last sprayed point
Map screen 8
Data area 10
display options 148
Header area 11
Moving Map area 9
maps
background 2
MapStar 3, 80
mark
clearing 71
overview 33
returning to 69
mask angle 140
setting 141
Matrix dimming level 123
maximum flow rate 43
mode, lightbar (day and night) 123
mode, screen (day and night) 22
Moving Map area 9
panning 20
zooming 20
Multi Back-to-Back pattern 57, 60

N

night mode, lightbar 123
night mode, screen 22

O

open pattern 50
options 138

P

panning 20
changing 138
pattern
Back-to-Back 57, 59
Back-to-Back Skip 57, 61, 62
closed type 50
Expand 58, 67
flying 51
Multi Back-to-Back 57, 60
open type 50
overview 33
Quick Racetrack 57, 63
Quicktrac X 58, 65
Racetrack 57
Reverse Racetrack 58, 64
Squeeze 58, 66
pilot, logging option 139
polygon
deleting 112
editing 112
overview 32
receiving guidance to 113
saving (overview) 110
saving w/o a job - single session 111
saving with a job 111
saving without a job - multiple sessions 112
setting points as you fly 103
using 103
polygons, calculating total area 110
pressing buttons in IntelliTrac 11
processor 2
product overview 2

Q

Quick Racetrack pattern 57, 63
Quick Start (job details) 34
Quicktrac X pattern 58, 65

R

Racetrack pattern 57
radius
values for waypoint guidance 84
recalling
job 99
route 94
waypoint 90
receiving guidance to a polygon 113
relative e-Dif position 145
resetting e-Dif 145
resetting e-Dif absolute position 144
Reverse Racetrack pattern 58, 64
route
defined 84
overview 32, 94
recalling 94

S

saving
job 98
polygon (with a job) 111
polygon (without a job - multiple sessions) 112
polygon (without a job - single session) 111
SBAS 3
screen motion 136
screen orientation 136
selecting
logging device 7
selecting the language 136
sending GPS commands to receiver 143
setting

cross-track sensitivity (lightbar) 132
differential source 142
DOF obstacle warning 125
double-spray warning 123, 124
edge warning (lightbar) 132
e-Dif absolute position 144
GPS options 140
GPS update rate 141
Hot Keys 23
lightbar display fields 129
lightbar status LEDs 130
mask angle 141
polygon points as you fly 103
relative e-Dif position 145
user-defined fields 24
waypoint manually (by coordinates) overview 86
waypoint manually by name 87
waypoint manually by route 88
waypoint while flying 85
setting up
display 136
IntelliTrac 17
lightbar 122
settings
AgLaser 26
coordinates 26
global units 26
local time offset 26
systemwide 26
settings, customized, saving 145
spray options
volume 41
Squeeze pattern 58, 66
starting IntelliTrac 6
status LEDs on lightbar 130
subscription, entering 120
swath
overview 33
switching between IntelliTrac and Windows 28
systemwide settings 26

T

time to edge (lightbar option) 113
total spray boom percentage
warning 43
touchscreen 2
transferring
data files 76
log files to PC 80
triggers, start and end settings 132

U

update rate 141
USB
and the .ini file 145
copying from to the hard drive 145
user-defined fields, setting 24
using
Keypad 12
polygon 103

V

viewing logs 72, 139
virtual lightbar 131

W

warning
DOF obstacles 125
double-spray 56, 123, 124
edge, lightbar 132
lightbar 56, 123
total spray boom percentage 43
waypoint 84
deleting 93
editing 92
overview 32
recalling 90
setting 84
setting manually (by coordinates) overview 86
setting manually by name 87
setting manually by route 88
setting while flying 85
Windows desktop 28

Z

zooming 20
changing options 138

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